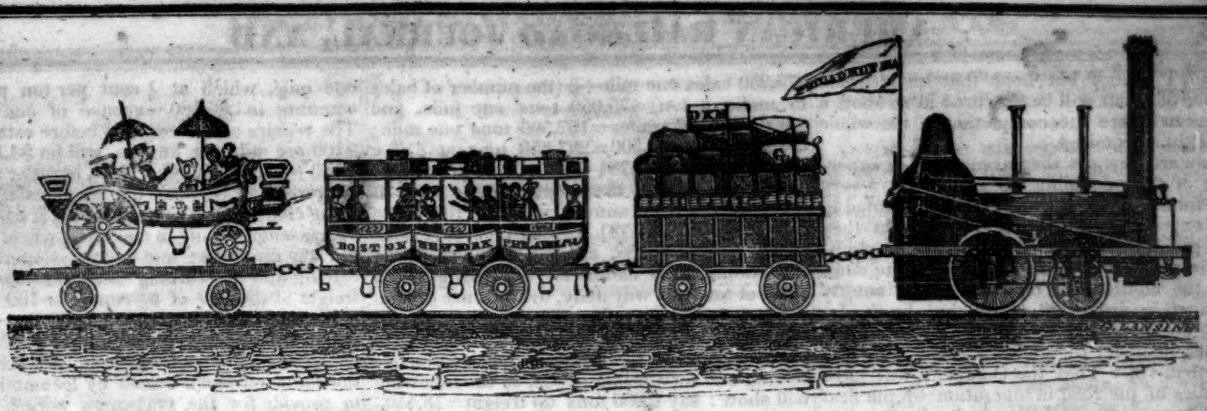

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, EDITOR.] SATURDAY, AUGUST 3, 1833. [VOLUME II.—No. 31.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 3, 1833.

TO CORRESPONDENTS.—The communications of *U. A. B.* and *Mercator* are received, and will appear next week.

The description and drawing of the Oxford Railroad, the connecting link between the Columbia Railroad in Pa. and the Susquehannah Railroad in Md. were duly received, for which we are indebted to the engineer of the road, J. E. THOMPSON, Esq. This, although very short, is a road of considerable importance, as it completes the line of railroad, as now authorized, from Washington to Trenton and to Amboy in New-Jersey; and indeed to New-York, except the short distance from Trenton to New-Brunswick; and even there, we understand, the stockholders of the turnpike road have it in contemplation to put down rails on a part of their road, in order to complete an uninterrupted track from the *Commercial* to the *Political* emporium of the United States. Even without the completion of the last-mentioned portion, the communication from Washington to New-York during the greatest part of the year will be, we doubt not, equal, if not superior, to any other route of equal distance of internal communication in the world.

The Baltimore and Washington, the Baltimore and Susquehannah, the Oxford, and the Columbia railroads, or the Chesapeake and Delaware steamboats, in connection with the Newcastle and Frenchtown railroad, will enable the traveller to perform the route between Philadelphia, Baltimore and Washington, with great ease, in the shortest period, and easiest possible manner; and the route between Philadelphia and New-York may be performed with equal facility by means of the Camden and Amboy railroad, in connection with the splendid steamboats of the Messrs Stevens, which are connected therewith; or, when completed, by the Philadelphia and Trenton railroad, and the New-Jersey railroad, from New-Brunswick to this city, through Elizabethtown and Newark.

The time, we hesitate not to say, is not farther distant than the successful completion of these roads, when the distance between New-York and Washington City will be regularly travelled in 16 to 18 hours; and, in cases of emergency, in 12 or 13 hours. Nor is this the only route upon which great improvements will be effected. If we look to the east, or the north, the west, and even to the south, we shall find the same spirit of improvement pervading the people—a spirit so powerful, and, we may add, too, so useful, that nothing can prevent it from producing results, equal, at least, in proportion to the improvements of the *last twenty years*.

The report of Mr. Thompson, engineer of the Oxford Railroad, will appear in our next. The drawing will be forwarded to Mr. VIGNOLES, of Liverpool, to whom we are desirous of forwarding maps and descriptions of every Railroad in the United States.

RENSSELAER AND SARATOGA RAILROAD.—This Railroad, which is to extend from Troy to Ballston Spa, is soon to be commenced. Surveys have been made, which show that the route of the road is one of the best which nature has provided. The estimated cost of its construction is less than $8,000 per mile, averaging the whole distance. A large proportion of the stock, says the Budget, is already taken up, and the whole will be subscribed for as soon as it is put in market.

THE SPRINGS.—The number of arrivals since our last has been altogether unprecedented during any week of a former year. It cannot be much, if any, short of 1500; and the number in this village at present is probably not less than 2500. Our public houses are all very much thronged; but the departures being numerous every day, we have thus far been enabled to afford accommodations—one swarm giving place to another, on the departure and arrival of the railroad trains.—[Sara. Sentl.]

TUSCUMBIA, COURTLAND, AND DECATUR RAILROAD.

[Continued from last week, page 468.]

TUSCUMBIA RAILWAY.

This work extends from Main street, in Tuscumbia, (and is there connected with the Tuscumbia, Courtland, and Decatur Railroad,) to the Depot, at the Tennessee river, a distance of about $2\frac{1}{16}$ miles. The construction of this road was completed about the 1st of June last, at the aggregate cost of $9,500, being $4,523 85 per mile, including the building of a viaduct over a ravine from 12 to 36 feet high and 274 feet long. Here it is seen that the actual cost of this work exceeds the estimated cost of the road above this per mile, by $540 85; but when it is considered that the ground is very rugged, compared with what it is generally through the valley, and that many extraordinary difficulties have to be encountered in the outset, in an enterprize of this character, it is rather to be wondered that it did not cost more.

Since the completion of the road in June last, a pleasure car has been plying between town and the river. A lumber car was also put upon it at the same time, and within a month there have been two other lumber cars received, and are now in use. As to the business and proceeds of this section of the road, I have no accurate information; but the Agent of the Company will no doubt make the necessary exhibits in due time.

The gravelling of the horse-path upon this road has been principally accomplished, at a cost of about $128 per mile. A certificate upon the Treasurer on account of this work has been granted for $59 60. The balance, say $211, will be due when the work is finished and a final estimate given.

A cotton shed and car house have been erected in town, at a cost of $535 33, of which there has been paid $335; the balance is due on demand.

An order has been sent, with the funds, in accordance with an order from your Board, for two sets of car wheels, &c. to be procured at Baltimore; another pleasure car has been engaged to be built by Mr. Williams, of this place, which is nearly finished. Patterns for turnout castings have been sent to the Russel's Valley iron works, with an order for four sets to be immediately furnished. An order has also been given for eight wrought iron switches to be sent from Napier's iron works in Tennessee.

PROSPECTS OF THE COMPANY.

The contractors, as has been previously remarked, have united their force, and are progressing with the work from Tuscumbia towards the county line; and, although their forces are as yet far short of what is required to accomplish the undertaking in the time sti-

pulated, I cannot but hope that an adequate number of hands will be procured in so short a time as to insure the completion of the whole by the time promised.

They are now, as they assure me, in expectation of fully doubling their force in a very short time; should they not be disappointed in their expectations, this force, with what they could get during July and August, from planters along the line, would be sufficient to complete the contract. The road to the county line must, in any event, be finished by the 1st day of June next. Relying upon these favorable anticipations, the following prospects are presented, viz.: That the Company will have $10\frac{1}{2}$ miles of the road in operation by the first day of June next—exclusive of the Tuscumbia Railway, $2\frac{1}{10}$ miles—and that by the first of December there will be 22.834 miles finished; add the Tuscumbia Railway, $2\frac{1}{10}$ miles, makes 24.934; or, say 25 miles, of their work completed in a little less than two years from the date of their charter. The affairs of the Company will then present a very different aspect. The expectations of the stockholders of an active and profitable business will be realized, and the whole community, many of whom are now opposed to the work, discovering that their facilities are much enhanced, will laud the enterprize. The following is given as an approximate estimate of the business upon the road, and the profits arising, when finished, to the town of Courtland.

Assuming that there will be conveyed from the points named to the Depot, at the termination of the Railroad, and up freight, as stated below.

From what point	No. bales.	Miles conveyed.	No. bales conv'd 1 mile
Tuscumbia, say	4,000	2	8,000
Capt. Lewis'	1,000	6	6,000
Fish Pond,	1,000	$8\frac{1}{2}$	8,500
County Line,	4,000	12	48,000
Town Creek,	2,000	17	34,000
Foster's,	1,000	$20\frac{3}{4}$	20,750
Courtland,	10,000	25	250,000
	23,000		375,250

Now, 375,250 bales, carried one mile, at 2 cents, - -		$7,505 00
500 tons other freight, at $2 50,		1,250 00
6,000 tons up freight, at $3 00,		18,000 00
Shipping commissions on 23,000 bales, at 25 cents, - -		5,750 00
United States' mail, - -		1,000 00
		$33,505 00
The cost of the roads amounts to	$102,313 49	
Depot at the river, say - -	7,000 00	
Intermediate depots	1,500 00	
	$110,813 49	

and $33,505 profit upon $110,813 49, is equal to $30\frac{1}{4}$ per cent. nearly. Passengers, it is calculated, will pay the expense of conveyance, and repairs of the road. That this source is adequate, will be seen from the following: Suppose an average of ten passengers, at one dollar each, shall be carried up, and the same down, for 312 days in the year, say 312×10×2=6,240. Now, supposing that the locomotive engine shall be used as the motive power, the expense will be at the rate of 43.100 of a cent per ton a mile, as was illustrated in my communication to your Board, dated 13th ult., a copy of which is hereto annexed and referred to, marked E. This calculation was founded on the period at which the power would be employed to the extent of its capacity; and therefore the most favorable result is derived, and the present estimate is presented for the business of the whole year, and consequently an allowance is due on account of the fluctuations that must occur.

In order, then, to make an ample provision on the above account, we will estimate the expense at $\frac{3}{4}$ of a cent per ton a mile; now, 375,250 bales one mile÷5 (the number of bales to make a ton)=75,050 tons one mile, and 6,000+500×25 miles=162,500 tons one mile; then 75,050+162,500=237,550 tons, at $\frac{3}{4}$ of a cent, is equal to $1781 62½, expense of conveyance. Estimating the repairs of the road at $100 per mile per annum, which is 100×25=2,000, and 2,500+1781 62=4281 62, and 6240—4281 62=1958 38, surplus; which shows that should there be but seven passengers instead of ten each way daily, the expense of conveyance would be paid. The expense of the agencies and depositories will be more than paid for from the commissions received for receiving and forwarding goods, as the following will show: say 6,000 tons up freight=13,440,000 lbs. at an average of $6\frac{1}{4}$ cents per 100 lbs. is $8,400. I have no data by which I can determine the actual expense of this part of the business, but should say the above is certainly more than sufficient. Now, if this assumed amount of business be correct—of which your Board are the better judges—then there must be a reduction in the rates, in order that the restriction in your charter may be complied with. No estimate can at this time be made with absolute certainly, and the amount of business upon this road must remain a desideratum, until practical data shall be derived from experience. But this conclusion cannot be resisted, that the Company will be enabled to realize a profit fully up to the limits of their charter, viz.: 25 per cent. per annum. It is difficult to state the amount, or indeed to set a limit to the business when the road shall have been accomplished to Decatur. When we look at the immense quantity of cotton produced in the Tennessee Valley alone, and the necessary amount of supplies that must be carried to the inhabitants annually, and the certainty that East Tennessee will avail herself of this channel, both to send off her surplus products and to introduce her supplies, it is at once evident that the business upon the road must be very great. The seven counties in the Valley produce between 80 and 90,000 bales of cotton, viz.: Franklin, 10,000; Lauderdale, 8,000; Lawrence, 15,000; Morgan, 12,000; Limestone, 14,000; Madison, 22,000, and Jackson, 6,000; making 87,000 bales. Now we will suppose that out of the productions of this Valley, there will be transported upon this road, as follows, and other freight as stated.

Counties.	Bales produced.	Proportion carried.	Bales carried.	Distance carried.	Bal. conv'd 1 m.
Franklin,	10,000	$\frac{9}{10}$	9,000	6	54,000
Lawrence,	15,000	$\frac{4}{5}$	12,000	22	264,000
Morgan,	12,000	$\frac{5}{6}$	10,000	35	350,000
Limestone,	14,000	$\frac{1}{2}$	7,000	45	315,000
Madison,	22,000	$\frac{1}{2}$	11,000	45	495,000
Jackson,	6,000	$\frac{3}{4}$	4,500	45	202,500
Lauderdale,	8,000				
	87,000		53,500		1,680,500

Making 1,680,500 bales conveyed 1 mile which at $1\frac{1}{2}$ cents per bale, is		$25,507 50
Shipping commissions on 53,500 bales cotton, at 25 cents, -		13,375 00
East Tennessee produce, lumber, &c. say 5,000 tons, at $1 80, -		9,000 00
15,000 tons up freight conveyed the whole distance, at $4, -		60,000 00
United States' Mail, say - -		2,000 00
		$109,582 50
45 miles of Railway, at $4,000, - -	$180,000	
Depots at the necessary points, - -	20,000	
Cost of road, - -	$200,000	

$109,582 50 profit upon $200,000 capital, is equal to $54\frac{3}{4}$ per cent. Passengers, as before, will pay the expense of conveyance, and keep the road in repair; and to show that this is an ample allowance, the following is given: say 1,680,500 bales÷5 (the number of bales to make a ton)=336,100 tons carried one mile, and 5,000+15,000×45=900,000 tons one mile, and 336,000+900,000=1,236,000 tons conveyed one mile, which at ½ cent per ton per mile amounts to $6,180 expense of conveyance. The repairs of the road, as before estimated at $100 per mile per annum, will be $4,500, and 6,180+4,500=10,680. Now, in order that passengers shall just pay the above expense, fare being charged at 4 cents per mile, it will require $9\frac{1}{2}$ passengers daily to travel the whole distance in each direction; and commissioners for receiving and forwarding being charged on up freight at the rate of $6\frac{1}{4}$ cents per 100 lbs., will make on 15,000 tons=33,600,000 lbs. $21,000, which will undoubtedly more than suffice to pay all agency and depot expenses. To accomplish the above assumed transit by locomotives, and to provide for the maximum period, at least three of those machines would be required, making two trips, or 90 miles per day each, from the 1st December to the 1st May; during the remainder of the year much less power would be necessary. The above assumption of business in the transportation of cotton from the counties above the shoals, may at first view appear extravagant, as it has been generally apprehended that much difficulty and inconvenience would attend the getting of freight upon the Railroad from the river at Decatur, and that consequently the most of the cotton raised above the shoals would be lighted through. But a plan has been conceived, which will, it is confidently believed, obviate the difficulty almost wholly. The following is an outline of the mode and manner by which it is to be effected, viz.: The Company will procure a steamboat of appropriate powers and dimensions, which will ply between Decatur and any and all the different landings upon the Tennessee river, between the head of the Muscle Shoals and Gunter's Landing, wherever freight may be collected. The plan of the boat to be so designed that she may take a certain number of railroad cars, say ten, upon her; which cars, empty or freighted, will be received upon, or discharged from her, by a proper application of her own power, retarding the cars on the descent, or propelling them on the ascent, upon the inclined plane, upon which they will meet the boat from the road, or depot. Upon this plan, all the cotton and other freight delivered upon the banks of the river, within the range of the said boat, would have almost as ready access to the railroad as if it were deposited in the depots and sheds at the head, or along the said road. In fact, it would give all the facilities, as to business and intercourse, that an extension of the railroad would, were it continued to all the points in question. The boat should be built upon what is termed the twin principle, giving a large deck surface for the reception of the cars, and a second deck would accommodate passengers, of whom there would be, without doubt, a great number.

It was designed to present an estimate of the probable amount of business to be done when the road shall have been completed to the county line, but the space of time between the 1st of June and 1st of December being that portion of the year when but little business could be expected to be done upon this portion of the road, and as it is anticipated that the road will be completed and in operation to Courtland by the first day of December, it is believed that the estimate already presented, under that state of the work, will suffice.

The whole of the foregoing is respectfully submitted, by

DAVID DESHLER, Engineer, &c.

Mr. A. Canfield's Description of his Iron Tension Bridge. [Communicated by the Inventor for the Mechanics' Magazine.]

Fig. 1 is a projection or side view of the bridge. Figs. 2 and 3, parts of one frame in perspective. Fig. 4, projection of the foot of the brace.

The upper horizontal pieces are called the upper strings. The lower horizontal pieces the lower strings. The upright pieces the posts. All these may be either chains or

Fig. 1

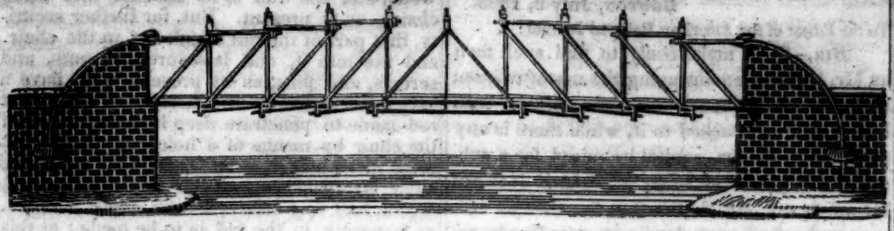


Fig. 2

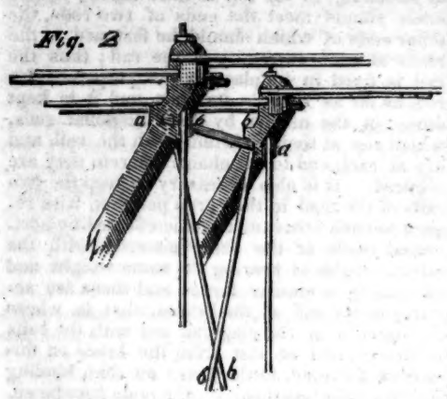


Fig. 3

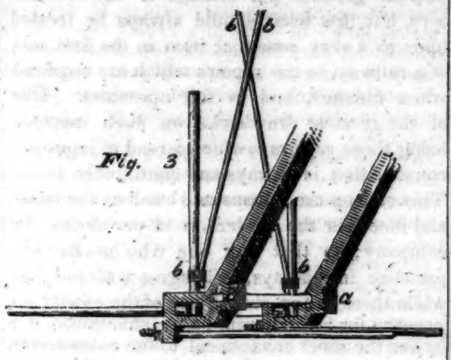
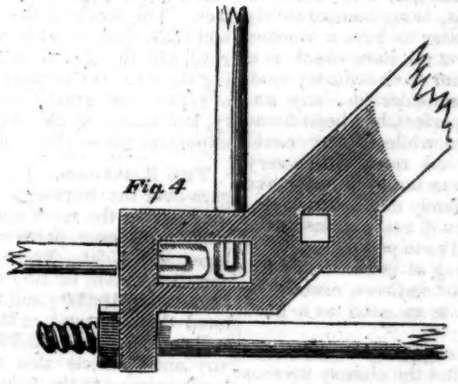


Fig. 4



bars. The oblique pieces are the braces. On each side of the road-way the frame is double, that is, it has a double set of braces, &c. in order to have a wider base at the abutment.

The bars connecting the braces are the cross-bars, see *a a a a*, Figs. 2 and 3. The pieces running from the ends of the upper cross-bars to the lower end of the post on the opposite side of the frame are called the lateral braces, see *b b b b*, Figs. 2 and 3. The upper strings are double, and pass round the head of the first brace, and are secured with screws and nuts at the head of the second brace. The pieces are supposed to be numbered 1, 2, 3, &c. from the abutments.

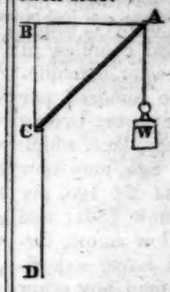
The first upper strings are firmly attached to the abutment and to the head of the first brace. To the head of the first brace the first post is attached, and also the second upper string. To the foot of the first post is keyed the second brace. The head of the second brace is sustained by the second upper strings, running from the head of the first brace. The foot of the second brace is prevented from moving horizontally by the second lower strings, so that when the span is complete the upper strings are acted on by a direct tension from the abutment, and the lower strings by a tension from the middle of the span. The floor, of either iron or wood, to be supported by the lower cross-bars.

The upper strings, from the head of the centre braces to the next brace on each side, may be left out, as there can be no stress on them; and also the lower strings, from the abutment to the foot of the second brace. This leaves all the iron at liberty to contract and expand without the least strain on any part. It is proposed to connect the parts last referred to by a spiral spring, that will yield an inch or two, with a tension of one or two tons.

You will observe that there can be not the slightest vertical motion in the bridge without an absolute *stretching* of the iron. In addition to the lateral braces in the frames, all the lateral bracing may be put in as in any other construction; and to give it any longitudinal movement, the frames of one half the span must be actually *raised up*, turning on the head of the first brace as a centre.

In estimating the strength, and also the stress from the weight of the bridge, I refer to only one side, or one half the span. Of all the results that I have seen, of experiments on the strength of iron, the lowest is 25 tons as the strength of a bar an inch square. Emerson says "34 tons may be safely suspended on a rod of iron an inch square." I suppose it will sustain 25 tons; and suppose a bridge of 80 feet span, or ten braces, each extending over eight feet, and that the upper strings at the abutment are *two* inches in the section, (a little less than one and a half inch round iron,) each string then will sustain twice 25, equal to 50 tons. But as the stress is on four of them, (that is, two on each side of the road-way,) the strength of the first braces will be 50 tons, multiplied by 4, equal to 200 tons; the second brace will sustain one half of this, equal to 100 tons; the third brace one-third, equal to 66·6 tons; the fourth brace one-fourth, equal to 50 tons.

This (fourth brace) is the point of greatest stress, for the centre has its support on each side.



To estimate the stress on the abutment, suppose B A to be the upper string, A C the brace, W a weight suspended at A. Now, as the brace is at an angle of 45 degrees, the weight W causes a *horizontal* pressure at C, exactly equal to the tension on B A. Suppose now 50 tons on the fourth brace, or at the centre of the bridge, the tension on the B A, or the first brace, will be 200 tons. The horizontal pressure at C is the same. Then, the power acting to turn the abutment on the point D is the difference of the products of 200 tons multiplied into D B, and 200 tons into D C. B C is 8 feet. Suppose D C to be 16 feet, or two-thirds of B D: then 200 tons, minus two-thirds of 200 tons, gives 66·8 tons for the stress on the abutment. This acts with a leverage of 24 feet.

I have here taken the extreme weight, which is of course many times greater than would ever be put on the bridge. The stress at the abutment from the weight of two frames, without the floor, is 7 1-9 tons. On a pier the pressure would be vertical only.

The cost of three frames, (that is, of a bridge with two road-ways,) would be $2,362. This is a matter of certain and simple calculation, by reducing the contents to cubic inches and pounds.

In making this estimate I take the first brace 4 inches square; the upper strings (double) and 2 inches in the section, and all the parts diminishing in a much less ratio than the stress upon them. All the parts diminish towards the centre excepting the lower strings. The stress upon them being greatest at the centre of the span.

The braces (of cast iron) weigh 23,224 pounds. The other parts of wrought iron weigh 15,013 pounds. The castings can be obtained at 5 cents the pound, and the wrought iron at 8 cents.

In this construction the iron acts only in the direction in which it has the *greatest* strength, *viz.* a direct tension or a direct thrust, there being not the slightest lateral strain. The stress upon each part from any given weight is a matter of simple calculation. Each piece may be proved before it is used. The contraction and expansion are effectually provided for, and it appears to possess every requisite in a bridge.

Aug. Canfield.

Paterson, N. J., June 12, 1833.

The steam engine and spinning jenny will do more for our national prosperity than all our statesmen and generals.

☞The Capabilities of Machinery in the Increase of Manufactures.—In our remarks last week on open trade with *one hundred millions in India, and three hundred and fifty millions in China*, we observed that our manufactures were capable of being increased to any extent: that extent is cer-

tainly not *infinite*—it is however *indefinite*,—and to an indefinite extent our manufactures might be multiplied by machinery. In the single but important article of cotton, one man can now produce two hundred times more goods in a week than he could in 1760, when George the Third ascended the throne. One mill in Manchester can, when all the spindles are at work, spin as much cotton thread in a week as would go round the world. In the manufacture of hosiery, which is seated chiefly in the midland counties of Nottingham, Derby, and Leicester, machinery has reduced stockings one hundred per cent. compared with what they were twenty years ago. Owing to machinery, lace, which was 2s. per yard eight years ago, may now be bought for 4d.; what was £4 10s. per yard twenty years ago, is now 18d.; and some kinds may be bought as low as one farthing per yard! Woollens have experienced less reduction in price than any other kind of wearing apparel. At a paper manufactory in Hertfordshire, a quantity of pulp can, at a distance of 27 feet from the cistern in which it lays, be converted in three minutes, by machinery, into a sheet of paper ready to be written upon! Such is the continual advancement made in the Manchester manufactures by machinery, that the trade say, if the manufacturer were to leave manufacturing for a few years, he would be quite lost upon returning into it again. Railroads are machinery, and their adoption and extension will tell upon the price of manufactured goods. Although the improvements in machinery during the last thirty years have been so wonderful, as to unite the realities of truth with more than the wonders of fiction, yet who will be so bold as to say that we are at the very top of the hill of advancement in mechanism? It was stated in evidence before a parliamentary committee, at the conclusion of the late calamitous and ruinous war, to the astonishment of the committee, that during the war machinery equal to the power of sixteen millions of men had been set to work in this country! and if a market could be found for what machinery is able to produce, that could soon be doubled. Now, owing to the increase of the population, particularly of the laboring classes, and the want of markets, machinery is in bonds, and the mechanic stands with one hand tied behind him, while the starving and misguided operative is ready with both hands to demolish his valuable inventions. What we want now is to open trade to India and China; then will the green withes, wherewith the Sampson of machinery is bound, be broken asunder, and the steam engine and spinning jenny, to which England owes more than all her generals, admirals, and statesmen, will increase that debt, by securing the valuable *natural* productions of art and science.—[London paper.]

THAMES TUNNEL.—Two estimates have been furnished by Mr. Brunel for the completion of the work: one to make it available for foot passengers, amounting to £146,000; and the other, which includes the sum required for the purchase of the ground for making the approaches and descents into the Tunnel on both sides of the river for carriages, amounting to £248,000; and from the experience gained during the construction of the part now finished, there is just ground for concluding that either object is attainable for the sum specified.

BOSTON, July 9, 1833.

To the Editor of the American Railroad Journal.:

SIR,—It is melancholy to find such men as Mr. Sullivan encouraging the use of wooden rails, or, what is much the same, timber with hoops of iron attached to it, while there is any probability of the capital required for a substantial iron railway being available. It is not for me to say, Mr. Editor, that the cheaper railway in the first cost does not necessarily return the greatest per centage to the subscribers, but that what should always be treated upon as a very essential item in the first cost of a railway, is the repairs which are required when finished, and in full operation. One of the greatest drawbacks on such incomes being those repairs towhich a road of improper construction is always and continually liable. This eats up the returns and burdens the trade, and incenses the traders, and perplexes the company; so that any one who has had experience in railways, will agree with me that, while there is any probability of the capital necessary for an iron road being subscribed, it is by far the most economical to the subscribers, since its returns are in a greater ratio than the other—its liability to accidents, and charge of renewal and management, being comparatively inconsiderable. It is better to have a wooden railway than no railway at all, in as much as a wooden railway is superior to an ordinary road. When traffic is at all considerable, any improvement, however imperfect, has been found worthy of attention, and while money could not be had to form a good road, it was very meritorious in engineers to improve and make the most of that immediately under consideration; but it is hoped they will not be so lost to the children of their adoption as to pawn them upon the public for the offspring of genuine science, or by any means, direct or indirect, encourage a belief that a bad road is as good as a good one.

I doubt much if any arguments could convince you, Mr. Editor, that the clumsy presses in use forty years ago were equal to those of the present day; or that a log road is equal to a M'Adamized one; or a wooden clock to one of brass; or that a surface of wood can receive as close a polish as one of iron. The want of means, and ignorance of a better, permitted wooden railways to exist for a long time in England, but all the improvements in that branch of internal communication have been made since the introduction of iron. It is hoped that in this, as in other branches of science, you will avail yourselves of the facts and conclusions of English engineers, not that you should notice the weary ground which has been already ploughed to your hand, as if it were necessary in acquiring a knowledge of shipbuilding to commence with the canoes, and rafts, and toys, of savages and children.

Mr. Sullivan says very truly, that he prefers the more durable road, but the fact of giving such statements as his last publicity, is encouraging, as I have seen in some instances a belief in the public mind, which is necessarily dependent for its information on practical men, that timber may be made equally good and durable as iron; and, therefore, that the cheapness of the latter ought to give it the preference. There can be no doubt that the wood which eventually yields tho greatest per centage, is the best for the subscribers; and on a great public thoroughfare, with sufficient funds. I will not be called upon to prove that a well constructed iron railway possesses, indisputably, this advantage. Very respectfully, yours,

S. D.

IMPROVED MANUFACTURE OF METALLIC RAILINGS FOR RAILROADS.—In this improvement the rails are to be made as they now are, and the chairs as they now are. The latter shall be fastened, as usual, into masses of stone or wood, and the rail to be secured into these chairs, as at present. But, for further security, that part of the rail which sits in the chair, and fits into it, and is secured by nuts, and screws, and pins, as at present, is to have a long rod of malleable iron fastened to it, and that rod made to penetrate deep into the centre of the chair by means of a hole prepared to receive it. The bolt which fastens the rail to the chair is to pass through this perpendicular rod. Again, half way between each chair, a brace, or fastening, in the rail is to be made; at this brace should meet the ends of two rods, the other ends of which should be fastened to the chair at each extremity of the rail; thus the rail is fixed in its place by the perpendicular rod, as far as regards its ends, and it is kept down in the middle by these diagonal rods, which rise at their junction with the rail, and dip at each end to the chairs whereto they are secured. It is also necessary to keep the two rails of the road in their true position, with regard to each other, and this is effected by horizontal roads of the same material with the other, capable of bearing the same weight and sustaining a similar force; and these are secured to the rail at the braces, that is, where the junction of the diagonal rod with the rails is formed, and so past from the brace on this side of the road, to the brace on that, binding the two rails together; or, the ends may be secured to the opposite chair with the same effect. The whole of these braces, chairs, bolts, and rods, form what is called a compound railroad, and though, in the first instance, increasing the cost, yet as they prevent the necessity of repair, and greatly add to security, durability, and utility of the road, the suggestion is an important one.—[New Monthly Mag.]

THE RAILROAD.—The number of passengers over the Saratoga and Schenectady Railroad during the week ending on Saturday, including pleasure parties, between the two villages, was 3550. The whole number from the commencement of July up to that period, has been rising 10,000; and it may safely be calculated that the total at the close of the month will not fall short of 12,000. This will fully equal any anticipations that have heretofore been made relative to the travel on the road.

The engine used thus far answers a most valuable purpose, and has been sufficiently tested, we think, to show that it is at least equal to any locomotive ever used in this country. It has on several occasions taken a train of 8 carriages, containing from 160 to 180 passengers, with three baggage waggons, and performed the trip to Schenectady in a little more than an hour and a half, frequently moving at a velocity of 20 miles an hour. The spectacle, so far in the interior, is one of a truly imposing character, and will for a long time prove a novelty of much interest to our inhabitants, and to the visitants who annually resort to these watering places.—[Saratoga Sentinel.]

MANCHESTER AND SHEFFIELD RBILWAY.—At the adjourned meeting of proprietors of the Manchester and Sheffield railway, held at Manchester on Wednesday; it was unanimously agreed to dissolve the company, and abandon the undertaking, and to return the balance in the hands of the treasurer to the subscribers.

STEAMBOAT SAFETY APPARATUS.—Experiments are in progress at the Franklin Institute, Philadelphia, for testing the tenacity of iron. They were instituted by a resolution of Congress, and are made under the direction of the Secretary of the Treasury. Mr. Johnson superintends them. The immediate object of the experiments was the increase of safety and certainty in the construction of steam boilers, the frequent bursting of which on the western waters had occasioned so many disasters. The Pennsylvanian gives some of the results: the machinery with which they were made is said to be better than any ever tried in Europe,

and it is so contrived as to be used at any temperature of the metals, from 0 to 500 degrees of Fahrenheit.

It was found that, up to 450 degrees, the tenacity of good iron increases in a direct ratio with the heat applied. This is contrary to the popular opinion. One bar of Tennessee iron, manufactured at the Cumberland Iron Works, below Nashville, was submitted to both cold and hot processes, and showed, as the temperature varied, a tenacity ranging from 59,000 to 64,000 pounds the square inch. The best Pennsylvania and Tennessee iron exhibited nearly the same qualities. Connecticut iron is also remarkable for tenacity; that of New-York had not been tried.

The Pennsylvanian adds one remarkable general result, which we quote as a matter of public congratulation. It is this: "The most ordinary American Iron is equal to the best British—and the best American is equal and frequently superior to the best Swedish and Russian that can be imported." A report of all these experiments and results is to be made to the Secretary of the Treasury, and laid before Congress.—[Balt. Amer.]

Extract from a letter, dated "Avoylle Ferry, on Red River, La., July 2d, 1833:

"The Cholera has generally subsided on those plantations in the parish of Rapide where it made its first appearance, and the planters returned with their force to their plantations again. The loss of slaves has been considerable, as well as loss in their crops. Some planters that lost but few hands have turned out one hundred acres or upwards of their cotton crops, in order to do more justice to the balance.

"The fatal disease is spreading in different directions. On Friday last there were several deaths in the town of Natchitoches, where it has attacked the white population. A few days ago there were fifty to sixty cases on Cicily Island, in the parish of Catahoula, and several deaths, confined generally to slaves. It is also raging with great mortality among the slaves in Point Coupee, on the Mississippi River.

"The parish of Avoylle continues healthy—but one case heard of in the parish, although it is now all round us.

"Capt. Shreevé, who has the management of the United States Snag Boats, passed down a few days ago with the four Steamboats from the Raft on Red River, where they have been employed this season in clearing out the raft. it was reported some days ago, that they had cleared the Raft upwards of seventy miles this season, and would be able to complete it next season; as the boats did not stop on their way down, on account of the cholera, we have no report from Capt. Shreeve, but anxious."

Babbage on the Economy of Manufactures.

[Continued from page 440.]

The following table shows the dimensions and price, when silvered, of the largest plates of glass ever made by the British Plate-Glass Company, which are now at their warehouse in London:

Height. *Inches.*	Breadth. *Inches.*	Prices when silvered. £.	s.	d.
132	84	200	8	0
146	81	220	7	0
149	84	339	1	6
151	83	239	10	7
160	80	246	15	4

The largest glass in the Paris list, when silvered, and its dimensions and price reduced to English measure, is,

128	80	629	12	0

151. If, therefore, we wish to compare the value of any article at different periods of time, it is clear that neither any one substance, nor even the combination of all manufactured goods, can furnish us with an invariable unit by which to form our scale of estimation. Mr. Malthus has proposed for this purpose to consider a day's labor of an agricultural laborer as the unit to which all value should be referred. Thus, if we wish to compare the value of twenty yards of broad cloth in Saxony at the present time, with that of the same kind and quantity of cloth fabricated in England two centuries ago, we must find the number of days' labor the cloth would have purchased in England at the time mentioned, and compare it with the number of days' labor twenty yards of the same cloth will now purchase in Saxony. Agricultural labor appears to have been selected, because it exists in all countries, and employs a large number of persons, and also because it requires a very small degree of previous instruction. It seems, in fact, to be merely the exertion of a man's physical force; and its value above that of a machine of equal power arises from its portability, and from the facility of directing its efforts to arbitrary and continually fluctuating purposes. It may perhaps be worthy of inquiry, whether a more constant average might not be deduced from combining with this species of labor those trades which require but a moderate exertion of skill, and which exist in all civilized countries, such as those of the blacksmith and carpenter, &c.* In all such comparisons there is another element, which, though not essentially necessary will yet add much to our means of judging. It is an estimate of the quantity of that food on which the laborer usually subsists, which is necessary for his daily support, compared with the quantity which his daily wages will purchase.

152. The existence of a class of middle-men between small producers and merchants is frequently advantageous to both parties; and there are certain periods in the history of several manufactures which naturally call that class of traders into existence. There are also other times when the advantage ceasing, the custom of employing them also terminates; the middlemen, especially when numerous, as they sometimes are in retail trades, enhancing the price without equivalent good. Thus, in the recent examination by the House of Commons into the state of the Coal Trade, it appears that five-sixths of the London public is supplied by a class of middle-men who are called in the trade "Brass-plate Coal-Merchants:" these consist principally of merchants' clerks, gentlemen's servants, and others, who have no wharves, but merely give their orders to some true coal-merchant, who sends them in the coals from his wharf. The brass-plate coal-merchant, of course, receives a commission for his agency, which is just so much loss to the consumer.

OF RAW MATERIALS.

153. Although the cost of any article may be reduced in its ultimate analysis to the quantity of labor by which it was produced; yet it is usual, in a certain state of the manufacture or most substances, to call them by the term raw material. Thus, iron, when reduced from the ore and rendered malleable, is in a state of preparation for a multitude of useful purposes, and is the raw material out of which most of our tools are made. In this stage of its manufacture, but a moderate quantity of labor has been expended on the substance; and it becomes an interesting subject to trace the various proportions in which raw material, in this sense of the term, and labor, unite to constitute the value of many of the productions of the arts.

154. Gold-leaf consists of a portion of the metal beaten out to so great a degree of thinness, as to allow a greenish-blue light to be transmitted through its pores. About 400 square inches of this are sold, in the form of a small book containing 25 leaves of gold, for 1*s.* 6*d.* In this case, the raw material, or gold, is worth rather less than two-thirds of the manufactured article. In the case of silver-leaf, the labor considerably exceeds the value of the material. A book of fifty leaves, covering above 1,000 square inches, is sold for 1*s.* 3*d.*

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* Much information for such an inquiry is to be found, for the particular period to which it refers, in the Report of the Committee of the House of Commons on Manufacturers' Employment, 2d July, 1830.

155. In the fine gold chains made at Venice, we may trace in the various prices and sizes the relative influence of the two causes above referred to. The sizes of these chains are known by numbers, the smallest having been (in 1828,) No. 1, and the numbers 2, 3, 4, &c., progressively increasing in size. The following Table shows the numbers and the prices of those made at that time.* The first column is the number by which the chain is known; the second expresses the weight in grains of one inch in length of each chain; the third column shows the number of links in the same length; and the last expresses the price in francs, worth ten-pence each, of a Venetian braccio, or about two English feet of each chain.

No.	Weight of one inch, in grains.	Number of links in one inch.	Price of a Venetian Braccio, equal to two feet ½ inch English.
0	.44	98 to 100	60 francs.
1	.56	92	40
1½	.77	88	26
2	.99	84	20
3	1.46	72	20
4	1.61	64	21
5	2.09	64	23
6	2.61	60	24
7	3.36	56	27
8	3.65	56	29
9	3.72	56	32
10	5.35	50	34
24	9.71	32	60

Amongst these chains, that numbered 0 and that numbered 24 are exactly the same price, although the quantity of gold in the latter is twenty-two times as much as in the former. The difficulty of making the smallest chain is so great, that the women who made it cannot work above two hours at a time. As we advance from the smaller chain, the proportionate value of the work to the worth of the material becomes less and less, until, at the numbers 2 and 3, these two elements of cost balance each other; after which the difficulty of the work decreases, and the value of the material increases.

156. The quantity of labor applied to these chains is, however, incomparably less than that which is applied to some of the manufactures of iron. In the case of the smallest Venetian chain the value of the labor is not above thirty times that of the gold. The pendulum spring of a watch, which governs the vibrations of the balance, costs at the retail price two-pence, and weighs fifteen one-hundredths of a grain; whilst the retail price of a pound of the best iron, the raw material out of which fifty thousand such springs are made, is exactly the same sum of two-pence.

157. The comparative price of labor and of raw material entering into the manufactures of France, has been ascertained with so much care, in a memoir of M. A. M. Heron de Villefosse, "*Recherches Statistiques, sur les Metaux de France,*"† that we shall give an abstract of his results reduced to English measures. The facts respecting the metals relate to the year 1825.

In France the quantity of raw material which can be purchased for £1 when manufactured into silk goods, is worth £2 37—broad cloth and woollens, 2 15—hemp and cables, 3 94—linen, comprising thread laces, 5 00—cotton goods, 2 44.

The price of pig lead was £1 1 per cwt.; and lead of the value of £1 sterling, became worth, when manufactured into sheets or pipes of moderate dimensions, £1 25—white lead, 2 60—ordinary printing characters, 4 90—the smallest type, 28 30.

The price of copper was £5 2 per cwt. Copper worth £1 became, when manufactured into copper sheeting, £1 26—household utensils, 4 77—common brass pins tinned, 2 34—rolled into plates covered with $\frac{1}{20}$ silver, 3 56—woven into metallic cloth, each square inch of which contains 10,000 meshes, 52 23.

The price of tin was £4 12 per cwt. Tin worth £1, when manufactured into leaves for silvering glass, became £1 73—Household utensils, 1 85.

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* A still finer chain is now manufactured (1832.)

† Memoires de l'Institut. 1826.

STEREOTYPING FIRST INVENTED IN AMERICA.—In the last number of the "American Journal of Science" we find an original paper of the late Lieut. Governor Colden, describing the process of stereotyping, addressed to Dr. Franklin, and the Doctor's reply thereto, dated in 1743, which is long before the invention was brought into practical operation in Europe. It will be perused with interest, as it proves that to this country belongs the merit of the first introduction of this useful art. We extract the following:

"Ever since I had the pleasure of a conversation with you, though very short, by our accidental meeting on the road, I have been very desirous to engage you in a correspondence. You was pleased to take some notice of a method of printing which I mentioned to you, at that time, and to think it practicable. I have no further concern for it than as it may be useful to the public; my reasons for thinking so you will find in the enclosed copy of a paper which I last year sent to Mr. Collinson, in London. Perhaps my fondness for my own conceptions may make me think more of it than it deserves, and may make me jealous that the common printers are willing to discourage, out of private interest, any discovery of this sort. But as you have given me reason to think you zealous in promoting every useful attempt, you will be able absolutely to determine my opinion of it. I long very much to hear what you have done in your scheme of erecting a society at Philadelphia, for promoting useful arts and sciences in America. If you think of any thing in my power whereby I can promote so useful an undertaking, I will with much pleasure receive your instructions for that end. As my son Cadwallader bears this, I thereby think myself secured of the pleasure of a line from you by him."

PHILADELPHIA, Nov. 4, 1743.

SIR,—I received the favor of yours, with the proposal for a new method of printing which I am much pleased with; and since you express some confidence in my opinion, I shall consider it very attentively and particularly, and, in a post or two, send you some observations on every article.

My long absence from home in the summer put my business so much behind hand, that I have been in a continual hurry ever since my return, and had no leisure to forward the scheme of the society. But that hurry being now near over, I propose to proceed in the affair very soon, your approbation being no small encouragement to me.

I cannot but be fond of engaging in a correspondence so advantageous to me as yours must be. I shall always receive your favors as such, and with great pleasure.

I wish I could, by any means, have made your son's longer stay here as agreeable to him as it would have been to those who began to be acquainted with him.

I am, Sir, with much respect,
Your most humble servant,
B. FRANKLIN.

Dr. Colden.

The mode of printing above described is now known by the term *Stereotype*; and it is a curious fact that the stereotype process, said to have been invented by M. Herhan, in Paris, and now practiced by him in that city, under letters patent of Napoleon, is precisely the same as that spoken of by Dr. Colden more than sixty years ago.

It is more than probable that when Dr. Franklin went to France, he communicated Dr. Colden's "new method of printing" to some artizan there, and that it lay dormant till about sixteen years since, when Herhan, a German, who had been an assistant to M. Didot, the printer and type-founder of Paris, but then separated from him, took it up in opposition to M. Didot. We have conversed with gentlemen who have seen M. Herhan's method of stereotyping, and they describe it to be exactly what Governor Colden invented. This fact established, there can be no doubt that M. Herhan is indebted to America for the celebrity he has obtained in France.

Since the above papers fell into our hands, we have endeavored to obtain information respecting the different modes of stereotyping now in use. The following is the result of our inquiries:

By a book published in Paris, about ten years since, by M. Camus, of the French National Institute, we find that a Bible was printed in Strasburgh, by one Gillet, more than a hundred years ago, with plates similar to those now used by Didot and Herhan, but not by any means so perfect. Gillet's moulds were made of a fine clay and a particular kind of sand found only in the neighborhood of Paris. It is also stated that a number of other ingenious men had at various times produced plates tolerably perfect, by different processes, but we may safely infer, from the art having made no great progress until the time of Didot the elder, that their endeavors had not been crowned with much success.

At the beginning of the French Revolution, great quantities of paper money becoming necessary to supply the deficiency of specie, either concealed or sent out of the kingdom by the rich, Didot was applied to by the National Assembly to invent some kind of *assignat* or bank bill, which should not easily be imitated; and at this period it was that M. Didot first directed his attention to the means of producing, *in relief*, a set of plates, to print on a common printing press, which were exactly *fac-similes*, and could not without much difficulty be falsified. This process was termed Polityping, as the mould in which the plates were cast was durable, and would produce any number of copies; the usual mode of stereotyping being, as the French term it, *a moule perdu*—it being necessary to make a new mould for every plate.

But as M. Didot's views were by degrees extended to the casting of pages for book printing, he found it unnecessary to use durable moulds, and therefore, after a year's experiment, invented a composition, which, like the sand used by brass-founders, might be wrought over again for different casts. The elegant editions produced by M. Didot and Sons are the best proofs of his success.

When the fame of M. Didot's invention reached England, Lord Stanhope, an ingenious and wealthy nobleman, whose time and fortune were principally devoted to the advancement of the arts, made propositions to Mr. Andrew Wilson, of Wild Court, Lincoln's Inn Fields, proprietor of the Oriental press, to assist him in such experiments as might bring to perfection a new mode of stereotyping, of which his lordship had obtained some ideas. Mr. Wilson embraced the proposal; and after four or five years of incessant labor, they attained nearly all the advantages they had contemplated. Mr. Wilson, in the year 1802, built his foundry in Duke street, Lincoln's Inn Fields, and in the following year disposed of the secret for six thousand pounds sterling, and some future advantages, to Mr. Richard Watts, for the use of the University of Cambridge. In the year following he disposed of it on similar terms to the University of Oxford.*

About two years ago a brother of Mr. Watts, of Cambridge, began a course of experiments in this city,† for a more cheap and easy manner of stereotyping than any hitherto discovered; and, in spite of innumerable disadvantages, has succeeded beyond his utmost expectation. We have seen plates of his casting of the greatest perfection and beauty. The chief difficulty he has experienced arose from the jealousy and illiberality of the common type-founders, who refused to lend the little aid he required of them. It is agreeable to us, however, from our own observations to be able to state that by uncommon perseverance through accumulated obstacles, Mr. Watts has invented a method of casting the common types much more perfect than those made in the usual way; and now will proceed with his plates without the assistance of other artists.

The principal defects in M. Didot and Lord Stanhope's processes, arise from the softness of the moulds they employ, which are composed of plaster of paris and some other ingredients. In taking them from the page, of which they are intended to cast a perfect copy, some part of the composition will always remain in the type, and leave the mould imperfect. After the plates are cast there is consequently much work for an engraver, to make them fit for use. Mr. Watts' mould being of solid materials, no such inconvenience can arise.

*The two Universities of England have the exclusive right of printing Bibles and Prayer Books. Twenty or thirty presses are generally employed in that business alone; the classic departments require many others.

†New Haven, Conn.

LARGEST COLUMN IN THE WORLD.—The following is an account of the monument erected by the Emperor Nicholas to the memory of his brother, the late Emperor Alexander. The shaft was placed on its pedestal on St. Alexander Neſskey's day, August 30, (O. S.) 1832, in the presence of the imperial family, nobility, citizens, and strangers. The day was remarkably fine, and an immense concourse—an almost countless multitude—assembled to witness the operation, in the large square in front of the Hermitage, or winter palace of the Emperor. The monument is of red granite. The pedestal, which is square, is 40 feet high; the shaft is round and in one piece; it is 85 feet high and 12 feet in diameter at the top; it weighs 600 tons. The column supports a colossal bronze statue, representing an angel holding a cross. The statue, with its pedestal, including the capital of the column, is 35 feet high, and the height of the monument from the ground to the top of the statue is 165 feet. The stone was brought from Finland, (from the same quarry where the celebrated pillars of the castle and church, polished like marble, were procured,) and transported to St. Petersburgh in a ship built for the purpose, towed by a steamboat. The inclined plane on which the shaft was rolled from the river Neva to its present site, contained a forest of wood, and cost in that country, where it is so cheap, a million of rubles, or $200,000. The column was raised and safely

placed on its pedestal by means of 60 capstans, manned by 2500 veterans, who had served with Alexander in his most glorious campaigns. Each of them wore badges of honor. The preparations for the stupendous undertaking were so complete, that not the slightest accident occurred; and during the operation of raising the shaft, not a whisper nor a word was heard throughout the vast multitude who witnessed the scene.

How to tin Nails, Tacks, &c.—First clean the surface of the articles to be tinned from rust or other oxide, by pickling them, or putting them into sulphuric, muriatic, or nitric acid, diluted with water, as usual, and washing them well afterwards in water; then put them into a stone-ware gallon bottle, together with a proportionate quantity of bar or grain tin, and of sal ammoniac: next place this vessel, lying upon its side, over a charcoal fire, made upon a forge hearth, and keep turning it round, and frequently shaking it, to distribute the tin uniformly over the surface of the articles to be tinned; lastly, throw the articles into water, to wash away all the remains of the sal ammoniac, and finally dry them in saw-dust made warm. The great merit of this process consists in the employment of the stone-ware vessel, which not only prevents the dissipation of the sal ammoniac in fumes, but also gives up the whole of the tin to the articles to be tinned, which would not be the case were a metallic vessel to be used.

Blacking.—"A Subscriber" asks for a receipt for making blacking, "as his family is numerous, and purchasing at 18d. per bottle is more than he can well afford." We subjoin one which is given in the Annales de Chimie, by the celebrated French chemist Braconot, who pronounces it to be, as compared with all the other known blackings, from Day's to Hunt's, "undoubtedly the cheapest and the best." Macerate one pound of malt in boiling water till every thing soluble is taken up, add 2¼ lbs. of plaster of paris well sifted, and 7 ozs. of lamp-black; then evaporate to the consistence of paste; and finally mix up with 1 lb. 2 ozs. of olive oil. It is said to spread very evenly, dry speedily, and shine brilliantly, with very little brushing; while it neither burns nor injures the leather. —[London M. Mag.]

AGRICULTURE, &c.

Fire Blight.—In the first number of Goodsell's Genesee Farmer, we find a statement containing the various opinions of the causes of fire blight advanced by writers in the New-England Farmer. In continuation of the subject the article proceeds:

"After all that had been written upon this subject in the N. E. Farmer, we find at page 19, Vol. 7, dated August 8, 1828, the following notice: "This disorder is extending itself in this vicinity to such a degree as to threaten the destruction of all our pear trees, unless some mode shall be discovered to arrest its progress. *We are satisfied that the true cause of the disease has not yet been discovered.* Dr. Fisher, Dr. Greene, and others of our best horticulturists, have made the most minute examination, and have been unable to discover any trace of the work of an insect."

Having referred to the opinions of others, we shall now add the result of our own observations upon the progress of this disease, and give our reason for some conclusions which we have been led to make rather from analogy than from having as yet discovered all that might be desired to support them. One reason why horticulturists have not made more satisfactory discoveries as to the cause of this disease, is that they have not commenced their examinations sufficiently early, and have been left to watch the progress of it after the first cause has ceased to operate.

I am inclined to think that careful examinations will support the following conclusions:

First, That the blight in Pear, Apple, and Quince trees is occasioned by an insect.

Secondly, That it is communicated to the pistil of the flower at the time that organ is in its greatest perfection, or during the expansion of the flower.

Thirdly, That it gradually spreads from the point of infection to other parts of the tree, in a manner similar to mortification in the animal kingdom.

Fourthly, That it is as capable of being communicated by inoculation as the Small Pox.

Fifthly, That no tree ever has it, unless by inoculation, until it has produced flowers.

In support of the first conclusion, so far as we observed this disease, it has spread from the place where it first commenced in an orchard, in every direction, without reference to the general course of the wind at the time, and as the Quince does not come into flower until after the Pear has shed its flowers, it cannot be attributed to an intermixture of pollen from the pear tree.

That it commences at the point of the pistil, has been evident from every case we have examined, before the different parts of the flower decayed. It often appears that no more than one flower in the cluster is infected; the fruit of the infected flower does not swell as the others, which continue their growth until mortification has, by degrees, descended through the stem, to the woody part of the fruit spur, over which it spreads, and ascends the stems of the remaining part of the cluster, which may readily be observed by a discoloration of them as it advances. In this section of country, the disease will be found to have advanced thus far by the first of June, when the leaves upon the fruit spur so affected will be found withering. After this, the rapidity with which it spreads depends on circumstances. Where there is the greatest quantity of alburnum, or elaborated sap, the disease spreads with greatest rapidity, which is increased by the state of the atmosphere, as in warm moist weather it progresses further than when dry and cool.

It is not until the middle of June that this disease begins to manifest itself to superficial observers. About this time the mortification from the fruit spray will have reached the limbs, and where they are humorous, and most of them affected, they will in a short time destroy the bush, so as to cut off all communication between the upper and lower parts of the limb, between the bark and wood. As the ascending sap passes through the sapwood to the leaves before it is elaborated, this communication is not cut off until later in the season, and the outer ends of the limbs remain green until the disease has penetrated the wood; at which time the agent of the sap is cut off, and the whole limb is discolored in a short time, often in the space of a few hours.

We do not pretend to be such an adept in the science of Vegetable Pathology, as to be able to describe the manner in which the *virus* of this disease acts upon the healthy parts of the tree, but of this we are satisfied, by repeated experiments, *that it is as capable of being communicated by infection as the Small Pox, or any disease to which the human family are subject.* The manner in which we have conducted these experiments is as follows: we have taken the discolored vivid matter from between the bark and wood of a diseased limb, and put it beneath the bark of a healthy tree, in some instances covering the wound with a strip of rag which had been dipped in melted grafting wax, in others leaving the incision open; in some instances the quantity of *virus* introduced into the healthy tree was not greater than would be used to inoculate a person for small pox, and yet in every instance, within from three to five days, the disease has shown itself spreading the same as in a tree which had it the "natural way."

Trees do not have it the "natural way," until they have put forth blossoms. We have repeatedly seen young trees growing near those which were in a diseased state, which remained in perfect vigor, and this present season we have examined one, which was of a large size, which had never produced any blossoms before, and this year only upon one small limb, which produced one dozen bunches of flowers, nearly all of which were diseased, so that we think by the first of July the limb will have turned as black as if it had been scorched by fire. Amputation is the only remedy known at present. As soon as the disease is observed the limb shoud be cut off below where it can be discovered; in doing which the operator should remember that the smallest quantity of *virus* is sufficient to communicate it to a healthy part, if brought in contact with the part between the bark and wood; he should therefore be careful not to use an instrument for amputation which has been used to examine the diseased parts, unless it has been thoroughly cleaned.

We have been thus lengthy in regard to this disease, because it is one of vital importance to every farmer who would cultivate a valuable orchard, or is fond of this delicious fruit. Every Pear tree in this section will be cut off by it, unless exertions are made to check it.

Fat Sheep in Summer.—A writer in the Farmer's Journal, after stating that he applies tar to the roots of the horns of sheep, and put a little in their noses and mouths, "as affording the best security against the maggot in the head," gives the following remarks on the management of sheep in summer:

"I am careful to have none of my sheep, except those I intend for market, get very fat during the summer. I have heard it remarked, and I believe it, that after once getting *very* fat, a sheep will never arrive at the same point again. Sheep which get fat during the summer, certainly do not do as well in the fall and winter. About the middle of September I give my sheep the best feed I can, and the middle of October begin to feed sparingly with turnips, potatoes, or some kind of grain. When the time arrives for yarding, which I do rather late, I separate my flock in the following manner. In one yard I put my rams and wethers, except such of the former as have become very poor during the time of running with the ewes. In the second I put my last spring lambs; in the third all my healthy ewes, and in the fourth my old and weak (but not diseased) ewes. A sixth department is a kind of hospital, into which every sheep is removed as soon as discovered to be afflicted with disease. This arrangement I consider very important, as it affords an opportunity for treating every class of sheep in the manner judged most proper for their circumstances. I have known instances in which the lot of old and feeble ewes have come out much improved in the spring, and have produced a good fleece, and raised fine likely lambs. I always intend, however, to turn my sheep before they get so old as to become enfeebled; as they are more likely to acquire those diseases which spread through the flock."

Isabella Wine.—It has become generally known among my friends and acquaintance, that last season I made a quantity of wine from the Isabella grape; in consequence of which I have had numerous applications within two or three weeks to furnish the *receipts* by which I made the wine. I have only refrained heretofore from publishing it from the knowledge of my own inexperience in the matter; and I would now refer inquirers to that excellent work of *Mr. Adlum*, of Georgetown, D. C., and also to the translation of a French work of

Thievaut De Berneaud, published by Mr. Canfield, of New-York, where full information may be found on the cultivation of the vine, and the manufacture of wine.

I feel it a duty, however, to give a statement of my process last season, which was successful in yielding me fifty gallons of excellent wine, from a grape which is becoming very plentiful among us, and which I had not known to have been fairly tested as a wine grape.

1st. I gathered the grapes when well ripe and dry, but did not exclude green and unripe grapes, nor pick them from the stems.

2d. Crush and bruise them in any way without breaking the seed. If the skin of the grape is only broken, it is sufficient, as the pulp will dissolve during the first fermentation.

3d. Put the *must* (or pumice) into an open cask or vessel, (which I shall call a *vat*,) and stir it well during the first day, keeping it covered over the top with a cloth.

4th. The must will rise in the vat for three or four days, and when it has ceased to rise the liquor must be drawn from the bottom of the vat as long as it will run.

5th. Press the must in any convenient way, to extract the remainder of the juice.

6th. Put it in a cask, which should be full, in order that the impurities may flow over by fermentation at the bung.

7th. Put two pounds of sugar to each gallon of liquor, unless you choose to risk the possibility of your wine becoming vinegar.

8th. Fill up the cask as often as it sinks below the bung.

9th. After it ferments eight or ten days put in the bung, and leave a very small vent by the side of it.

10th. After remaining about two months, rack it off into a clean sweet cask, well scented with a brimstone match, burnt within. If it is not fine and bright, it would be well to *fine* it with the whites of eggs beat up with sand.

11th. In the month of March it should be again racked off into a cask or bottles, and placed away for use.

The wine will be of a beautiful red color, and will at first appear sweet, but will gradually become sharper and still retain the delightful flavor, as well as odor of the grape. Mine has not yet attained a year in age, and I cannot tell what changes might be effected by time.

The Isabella grapes are very plenty this season, but, by reason of the wet and cold, are much inferior in flavor to what they were last year, and are not yet perfectly ripe. In a few weeks I shall probably make a greater quantity of wine than last season; and as some of my neighbors are also attempting the same, I hope to be gratified in hereafter giving our experiments to the public. ALDEN SPOONER.

Brooklyn, October 10, 1832.

COBS OF INDIAN CORN.—Mr. Fessenden: Are corn-cobs most profitable for manure or fuel, when hard wood is three dollars a cord?

If you will have the goodness to communicate your opinion on the subject through the medium of your useful paper, the New-England Farmer, you will greatly oblige

A YOUNG FARMER.

By the Editor.—We are not able to say whether corn-cobs would be most valuable for manure or fuel, but believe the latter, as it requires a long time to rot, or decompose them in such a manner that they would be useful as manure.

But we believe the best use to which corn-cobs can be applied, is to grind them together with the corn, and give the mixture to swine, or other domestic animals, which it is wished to fatten. The following extracts from a letter from the Rev. H. C. Perley, of New Rowley, Mass. to the Editor, may serve to explain and corroborate this assertion.

"I had corn and cobs ground together; and I put but about a peck of corn to a bushel of cobs. Meal made of this composition I scalded, and made about as thick as hasty pudding; or mixed about one peck of meal with three pecks of boiled potatoes, thickened to the consistency of pudding. With this kind of food, and what wash was made in the family, I constantly feed my swine; there were none in the neighborhood grew so fast, or were fit to kill so early in autumn. * * *

"I have also made further discovery of the use of cob meal, for other purposes besides feeding swine and cattle. I had one batch of coarse brown bread made of it, ground about half and half; sifted as usual, and the application of the usual quantity of rye meal. The bread was as high seasoned, as light, as sweet and as moist, as that made of pure Indian and rye meal; though I think it will dry rather sooner."

In the *Massachusetts Agricultural Repository* for January 1823, is a communication from Asa Rice, Jr. of Shrewsbury, in which the writer observes as follows: "The kind of meal I have used for seven years past, almost exclusively, for provender, is corn and cobs cracked and ground together, which is the best provender I ever made for fattening cattle. The reason I consider the cob useful is, it swells in the creature, and keeps him in good order. In no one instance since I have fed with this meal have my cattle been out of order by being cloyed, or scouring; they are at all times regular; but when I formerly fed with clear Indian meal, it was not unfrequent that their bowels would get out of order, and I have had considerable difficulty in regulating them again; they lost two or three days, sometimes a week. When this kind of provender was first introduced in this vicinity, it had its opposition like almost all new things. The second year, if I mistake not, which I made use of it, I thought I would try an experiment as follows, by feeding one ox with corn and oats ground, the other with corn and cobs, having a yoke of oxen so even matched that no one who viewed the cattle appeared satisfied which was best: accordingly I fed them as above. The cob is computed to make a little more than one third, therefore, I mixed the other with one third oats, which was my former mode. I gave each ox an equal quantity at a time, except the one which had corn and oats some days became dainty, and would not eat his allowance, while the other kept his regular course. The allowance for both was a little over three pecks per day. When I took the cattle to market Mr. A. White bought them; they weighed about 28 hundred and a half. The one fed on corn and oats had 162 lbs. of tallow, and weighed about half an hundred more. The one fed on corn and cobs had 163 pounds of tallow, and Mr. White pronounced his beef half a dollar on the hundred better than that of the other, mostly on account of the *color of the beef*."

The third volume of the Memoirs of the Philadelphia Agricultural Society likewise contains an article on grinding Indian corn in the cob, as food for cattle, &c. by Dr. Mease, of Philadelphia. Mills, for the purpose of grinding corn and cobs together, have been erected in Andover, Danvers, and, we believe, other places in Massachusetts. Perhaps a large mortar, with a mallet or pestle, might answer for cracking corn and cobs, and pulverise them sufficiently for cattle food.—[New-England Farmer.]

HEMP.—Mr. Clay, of Kentucky, we believe was the first who introduced the culture of this plant in the United States. It is now raised to a great extent in several counties of that state, and forms a source of wealth to those who raise and manufacture it. Many have amassed large fortunes in its traffic. During a late visit to that quarter we ascertained that the produce to the acre was, on an average, about 800 lbs. and the average price about five dollars per cwt. It is generally sold by the farmers to the manufacturers in the different villages, and by them made into bagging, bales, and other kinds of untarred cordage.

The price of American hemp is quoted in the N. Y. Market at 120 to 150 dollars per ton—Russia clean, 200 to 205 dollars.

An attempt was made two or three years since to introduce it into the state of Connecticut, and the country farther north. The plan succeeded, and the hemp grew well. Two or three men, who were up to a thing or two, appeared at Canterbury, near Norwich, with large quantities of hemp seed for sale. They proposed to sell the seed to the farmers, and gave instruction how to cultivate the plant: they stated that they had made arrangements to return in the ensuing autumn to erect machinery for its manufacture, and would give so much per ton for all that could be raised. This took well, and the rogues sold all their seed at enormous prices, and decamped; the hemp grew, was stacked, and remained in that situation, to our knowledge, a year afterwards, waiting the return of the originators of the hoax.

CAULIFLOWERS.—Instead of cutting off the whole head of a cauliflower, leave a part on, the size of a gooseberry, and all the leaves—second and even third heads will be formed; and thus they may be eaten for two or three months; when, by the present practice, by cutting the head off completely, the bed of cauliflowers is gone in two or three weeks.

THE WEEVIL.—Salt is said to be a complete preventive against the destruction of wheat by the weevil. Mix a pint of salt with a barrel of wheat, put the grain in old salt barrels, and the weevil will not attack it. In stacking wheat, four or five quarts of salt to every hundred sheaves, sprinkled among them, will entirely secure them from the depredations of the insect, and render the straw more valuable as food for cattle.—[Hort. Reg.]

CUTTING WHEAT BY HORSE POWER.—Several members of the Agricultural Society, last Wednesday, attended near Carthage to see a machine for cutting wheat by horse power in operation. It was propelled by two horses, and cut as fast as eight men could conveniently bind, doing the cutting neatly. This machine is the invention of Mr. O. Hussey, and will no doubt prove a useful addition to our Agricultural implements.

Mr. J. C. Ludlow suggested that it would be good economy of time and labor, to take a thrashing machine into the field and thrash out the grain as it is raked, thereby saving the binding and hauling to the barn or stack. We think the suggestion a good one.—[Cin. Far.]

TO PROMOTE FRUITFULNESS IN TREES.—A correspondent to the Genesee Farmer, under the signature of Ulmas, recommends a vigorous growth to young trees, that they may acquire size and strength, and not exhaust themselves by early fruitfulness. He says:

"But I proceed to consider the second inquiry, to wit—To check the exuberant growth of wood, and cause it to produce fruit-buds, flowers, and fruit.

I shall assume that the trees are of well known kinds, and whose bearing qualities have been tested, and that they are situated in an open and well cultivated ground, as I believe the whole complaint can be made under no other circumstances. The trees have also been well pruned, and are accommodated with a good shaped head for bearing, and of fair size. My answer is, *Lay your ground, on which your trees stand, well down to grass, and let it remain so for several years.* The next year after seeding the ground, the growth of young wood will be much diminished, and fruit-buds will form in moderate quantities; flowers and fruit will follow the next season. That year, if the tree be an annual bearer, an increased number of fruit buds will be found, and so continue in annual succession. If, after a few years, the tree is too stationary in its growth, for it certainly will not throw out young wood very rapidly, plough, and cultivate, and manure the land, and you can supply the trees with any amount of young wood required, although the bearing will still continue in an abated degree.

If you find your trees get too thrifty, you have only to seed down again, and manage as circumstances may require."

The following reasons why grass produces the effect seem to be satisfactory. We presume a few crops of almost any exhausting grain without manure would have the same effect. It is strongly impressed on our mind, that we have heard of pear-trees of many years' growth in grass ground, producing no fruit until the soil was disturbed by the plough. Ulmas says:

"While trees are young, their roots expand and run near the surface of the earth. If the ground be cultivated, the earth is warm and light, and the roots absorb much nourishment, and a rapid growth of young wood is the sole consequence. In process of time, as the tree increases in size, the roots find their way deep into the earth, where the temperature is lower and its growth is by degrees checked; fruit-buds are consequently formed, and trees come into the bearing state. Now, putting land into grass has the same effect. The sun is hidden from the earth; the temperature is lower; the richer nutricious gases of the soil are absorbed by the grass, and the same result is produced as if maturer age had forced the roots more deeply in the ground."

Grass and Apples for Swine.—There is no question but that some farmers fatten their hogs at half of the expense that it costs others. Travel almost any considerable district of our country, you will find at this season of the year one half of the swine running in the streets, and fed on nothing but thin swill. As soon as the corn is gathered, these pot-bellied and meagre creatures are shut up in pens, and fed on unbroken corn until they are fat. In this way we have known farmers to feed away their whole crop of corn, and obliged to either buy more corn or kill them not sufficiently fattened. Other farmers will keep their swine in a thriving growing condition through the summer, and when the time comes to shut them up to be fed on corn, they are more than half fat. They thus save the greater portion of their corn for family use and to sell.

The celebrated agriculturist, Arthur Young, Esq., pastured, in 1776, sixty hogs of various sizes, on only two acres of clover. They kept in good condition, and grew remarkably fast. In connection with feeding on sweet apples, many farmers in this country have entered extensively into the plan of fattening their hogs on grass. If a shady, comfortable and clean pen, into which the apples are thrown, is made in the clover field, the hogs will remain in it the greater part of the time, and thus much manure may be saved. Unless the orchard contains a greater proportion of sweet apples, this plan is better than to turn the hogs into the orchard. It will often happen that large quantities of leaves and other suitable substances may be obtained near the pen, and which may be carted into it with comparatively little trouble.

Horticultural Society of Charleston.—The Editor of the Southern Agriculturist, in noticing the May exhibition of this society, gives the following concluding remarks. They make evident the good effects of united efforts.

"On the whole, we have every reason to be gratified. Our society has increased in numbers, and what is better still, the taste for horticultural pursuits is rapidly spreading throughout our city, which is shown by the eagerness with which plants are sought after by all, whether young or old, ladies or gentlemen, and by the desire which all who have even a small spot of ground evince to have it decorated with flowers and ornamental plants, while the more substantial part of the garden is frequently boasted of, and shown with pride, as possessing vegetables which would not disgrace the table of any one. This was not the case a few years ago; and from the improvements which have already taken place, we augur the happiest results. It will yet be some time before we can vie with our northern brethren in exotic plants, especially in those which are rare and costly, but we doubt not the time will come when our exhibitions will bear a comparison with their best. And why should it not? We have both the wealth and the climate, and all that is wanting is a taste for such pursuits, which is now just springing up, but which promises to produce an abundance of fruit.

American Larch (*Larix Pendula* v. *Americana.*)—This tree abounds in Newfoundland, New Jersey, Pennsylvania, and as far south as the "most gloomy exposures in the mountainous parts of Virginia." The author of Sylva Americana thinks the climate of the northern States uncongenial, from the fact that it grows only in low and moist places, in Vermont, New Hampshire, Maine, and on uplands about Hudson's Bay. This opinion, however, can be confirmed only by experiment. It grows well as far south as New-York, as an ornamental tree, in a low, sandy, or moist garden soil. It is a magnificent tree, and in its native forest attains the height of 80 or 100 feet. The wood is valuable, but little used because of its scarcity. There are, undoubtedly, many native timber trees, that might be cultivated in our low and waste uplands with great profit. Useful timber of almost every kind commands high prices. We will give an example of planting forest trees in Great Britain. In 1770, Mr. White, a landscape gardener, purchased, in the higher parts of the county of Durham, an estate of 700 or 800 acres for £750. This he planted principally with a species of larch and Scotch fir. After ten or twelve years his plantations began to pay admirably well in pit-wood, hedge-stakes, and other uses. Many years ago, says Sir Henry Steuart, the larch wood alone yielded Mr. White £650 a year, and a few years ago £1000, derived principally from the thinnings. On a gravelly soil, on which some vegetable mould has accumulated, this larch doubles its value every three years, after it is 15 years old, and every 5 years after 25. In 1826, the larch and fir on the estate were valued at the enormous sum of £30,000, equal to $140,000. At this time, 1826, the proprietor was about to cut the whole down; and after taking a few crops of grain, he intended to replant, to procure a second fortune for his family.

Climates of the Eastern and Western Continents.—On the supposition that the American continent continues much further towards the north pole than the eastern, the former would be colder, says Malte Brun, as a greater portion would be in a frozen state.

Caverns.—The depth of that of Eldon Hole, in Derbyshire, England, has been sounded 9600 feet without reaching a bottom. There are some caverns from which an icy cold wind issues in summer. There are two in France, the walls of which are, in August, covered with ice that melts in December.

Beech Trees proof against Electrical Fluid.—A correspondent of the American Farmer states, that it is a very common opinion among surveyors and woodsmen of the western states, that the beech tree possesses the non-conducting power ascribed to the cedar; "I presume," says he, "I have passed a hundred oaks which have been stricken, and although beech is more common than any other timber, I have not discovered one of that kind."

Balsam of Mecca.—The balessan, balm, or balsam of Mecca, (*Balsamodendron Opobalsamum,*) belonging to the family *Burseraceæ*, is a native of the eastern coast of Abyssinia, especially at Azab, and as far as the strait of Babel Mandeb. Bruce says, it is a small tree about fourteen feet high, with scraggy branches and flattened top, like those which are exposed to the seaside blasts; the appearance is consequently stunted, and the leaves are beside small and few. He supposes that it was transplanted to Arabia, and there cultivated at a very early period. This was the *Balsamum Judaicum*, or Balm of Gilead of antiquity and of the sacred writings, it being supposed at one time to be produced only in Judea. It seems, however, to have disappeared from that country, and the supply to have proceeded from Arabia. Many fables are connected with it. Tacitus says, that the tree was so averse from iron that it trembled when a knife was laid near it, and it was thought the incision should be made with an instrument of ivory, glass, or stone. Bruce was told by Sidi Ali Taraboloussi that "the plant was no part of the creation of God in the six days, but that in the last of three very bloody battles which Mahomet fought with the noble Arabs of Harb, and his kinsmen the Beni Koreish, then pagans, at Beder Hunein, Mahomet prayed to God, and a grove of balsam-trees grew up from the blood of the slain upon the field of battle; and that with the balsam which flowed from them he touched the wounds of those even that were dead, and all those predestined to be good Mussulmans afterwards immediately came to life." To return to the balsam-tree: the mode of obtaining it remains to be described. This, according to Bruce, is done by making incisions in the trunk at a particular season of the year, and receiving the fluid that issues from the wounds into small earthen bottles, the produce of every day being collected and poured into a larger bottle, which is kept closely corked. The smell at first is violent, and strongly pungent, giving a sensation to the brain like to that of volatile salts when rashly drawn up by an incautious person. The natives of the East use it medicinally in complaints of the stomach and bowels, as well as a preservative against the plague; but its chief value in the eyes of oriental ladies lies in its virtues as a cosmetic,—although, as in the case of most other cosmetics, its effects are purely imaginary. [Edinburgh Cabinet Library, No. XII.—Nubia and Abyssinia.]

[*From the Hampden Journal, Springfield, Mass.*]

"Valuable Turtle."—In the year 1816, Mr. Jonathan Worthington, of West Springfield, found a Turtle upon his premises which had "J. W. 1717" marked—evidently cut with a penknife—upon the under shell. The Turtle was set at liberty, after examination, and again found in 1823; again in 1828; again in 1829; and a few days since in 1833. The father, grandfather, and great grandfather, had the same given name, with the present *Jonathan* Worthington, who thinks that the great grandfather marked the turtle. The turtle is of the species commonly called the "Box Turtle," having the upper shell very crowning, and the lower shell, flat with a joint in the centre. The "venerable" gentleman, if the date is correct, must of course be upwards of 116 years old, and is said to be as active as any of the young fry of the same species which is generally to be met with.

"What's all the best on't," the farm upon which the present Mr. Worthington lives, has been in the possession of the four several *Jonathans*, and the "venerable" has always been found within a few rods of the same spot; which indicates that, whatever may have been his observations for the last century, his travels have not been very extensive.—The circumstance is somewhat singular, and is our motive for noticing it.

To those who are not aware of the longevity of the turtle it may be well to give an extract from "White's Natural History of Selborne," in which are some interesting facts in relation to the Tortoise Among others, to show its strength, it is stated that a common sized turtle would move with ease with a weight of 18 stone on its back, and that a cart wheel passing over the turtle gives it no apparent pain. In relation to the longevity of this "creeping thing" the following extract is from the work abovementioned:

"From a document belonging to the archives of the Cathedral, called the *Bishop's Barn*, it is well ascertained that the tortoise at Peterborough must have been about 220 years old. Bishop Marsh's predecessors in the see of Peterborough had remembered it above sixty years, and could recognize no visible change. He was the seventh bishop who had worn the mitre during its sojourn there. If I mistake not, its sustenance and abode were provided for in this document. Its shell was perforated, in order to attach it to a tree, &c. to limit its ravages among the strawberry borders."

Cincinnati, July 23.—*The Harvests.*—We learn from every part of the great Mississippi Valley, that the crops are most abundant and are generally saved. In Missouri and Illinois, the wheat is most remarkably fine.

In the eastern parts of Pennsylvania, and in Maryland, the harvest has turned out better than was expected. On the other hand, in Virginia and North Carolina there is a general complaint that the harvest is light and damaged.

NEW-YORK AMERICAN.

JULY 27, 29, 30, 31, AUGUST 1, 2—1833.

LITERARY NOTICES.

REMARKS ON THE UNITED STATES OF AMERICA, *with regard to the actual state of Europe*, by HENRY DUHRING: 1 vol. London; W. SIMPKIN & R. MARSHALL: Amsterdam, C. G. SULPKE: New York, W. JACKSON.—Another book upon America! we think we hear our readers exclaim. Even so—another book upon America, and by a reflecting scholar-like mind. The greatest problem concerning the happiness of man, here below, is now in the progress of solution, upon the greatest scale in these United States, the problem of "the capacity for self-government of educated man." Hence it is not to be wondered at,—at a period of universal peace, and when the mind of Europe is fermenting—when old abuses even there are losing their time-honored sanctity—and the youth at least of many countries are looking forward to such a condition of things, as will giveto active, stirring talent a free and fair field of exertion—that many eager eyes should be directed to this country, and much anxiety be felt to know what our real condition is. The writer of this little volume—so well printed as to be on that account attractive, independently of its contents—is, we infer from various sentiments scattered through its pages, a Dutchman, and a zealous adherent of the House of Orange. He however does not give any account of himself; and we are unable to give any account of him. His essays, for such in truth they are, on various political topics suggested by the condition and institutions of the United States—are written in a philanthropic spirit; and with a just perception—not a common attribute by any means of those foreigners who have treated of this country—of the operation and influence of our somewhat complicated scheme of state and federal governments. This is in no sense a book of travels. Indeed, but for some few casual expressions here and there, implying that the author speaks from personal observation, it is a book that might have been written without stirring from the Hague, or Amsterdam—except that from books alone, or conversation, it would be difficult to acquire such an insight into our system as is evinced by it. But there is no trace in these pages of the route of the traveller—of the precise time of his visit—nor of the regions which he visited. It is, as we said before, a series of philosophical essays—well written—justly reasoned for the most part—enforced by numerous quotations from American, English, French and German writers—the whole concluding with a discussion on "the golden age!" The titles of the different chapters—there are but eight in all—are as follow:

Chap. I.—Will the North American Union last?
Chap. II.—Examination of an Opinion somewhat prevalent in the Mother Country, that the want of an Established Church has produced want of Religion in the United States.
Chap. III.—On Washington, and his projected Monument in the City of Washington.
Chap. IV.—Some remarks regarding a Statement made by a very popular English Writer, that "the Women do not enjoy in the United States that Station in Society which has been allotted to them elsewhere."
Chap. V.—On Education, and its Connexion with Civil and Political Institutions.
Chap. VI.—On Emigration.
Chap. VII.—Some Remarks on Agriculture, and the Advantages which an Agriculturist, emigrating to the United States, has to expect here.
Chap. VIII.—On the Golden Age.

We cannot give a better specimen of this publication than by quoting the annexed extract, repelling the idea of the instability of the American Union:

That, however, the Union of North America is already making rapid strides towards its dissolution, which is so often asserted in Europe, is an opinion contrary to my judgment. Are not the different States which compose the Union linked together by the most intimate connexions; as, a common language; a common general character; the self-sufficing variety and luxuriance of their soil; their unbounded collective resources; the general activity, intelligence, and enterpising spirit, of their inhabitants; an unfettered interior commerce; the fondest recollections, and the happiest prospects; in short, by the strongest tie which ever kept a confederation together—their mutual interest?

That this mutual interest of of late been disturbed, by some restraints laid by the federal government on the foreign trade, is a fact of public notoriety. The right of the federal government to impose those restraints on foreign commerce, and to impose taxes beyond what is deemed necessary for the purpose of a national revenue, has not only been doubted, but openly denied. Whether, however, this opinion can be fully justified, I am rather inclined to doubt. The question is here not so much a question of revenue as of commerce; or, in other words, the federal government seems to have acted in this case, not so much in virtue of its power to impose taxes for the purpose of revenue, as in virtue of its authority to regulate and to protect commerce. The said government seems to have acted in the accordance to that principle, neither by reason nor by experience in the maxim, that the adoption of the rescrictive policy, by one or more nations, makes it the interest of others to countervail those foreign regulations, by reciprocating those restrictions. The chief question in the given case certainly is, whether by those commercial regulations, commonly called the tariff, the general interest of all the States, which to protect and to foster is the constitutional and only avowed object of federal government, has not been more destroyed than protected. If the enemies of the tariff should be able to prove that this tariff has been oppressive, unequal in its operations, and really detrimental to the interest and to the commerce of the whole Union—or that the participation in the benefits and in the burdens of the Union, has thereby indirectly been rendered unequal, with regard to all the States—then the true object of the Federal Government has thereby not been attained, and the tariff must be altered. After such a proof, any longer to enforce these commercial restrictions would be acting against the spirit of the Confederation, or against those concessions which were made by the several independent States, when for their general welfare, by way of compromise, they instituted the Federal Government. This Federal Government does not fulfil its duties, when it does not equally protect the rights of all the States: it always, more or less, steps out of its proper province, when, to relieve the inhabitants of some States that by false or untimely speculations may have entangled themselves in difficulties, it enforces commercial restrictions, which do not only deeply affect the well-being of other States, but which also, by alienating from each other the mutual affections of the Americans, are calculated to endanger the harmony of the Union.

To prevent the further spreading of the existing seeds of discord, and to regulate, to the satisfaction of all the States those mutual concessions which may be deemed of absolute necessity for the prosperity of some branches of industry, and which an independent nation ought always to cultivate, or on which too great a number of individuals depend already for their maintenance, this is of the greatest consequence for the federal government of the United States. It is obvious, however, that in the regulation of these conflicting interests the said government cannot proceed with too much caution.

Though at present it certainly would be connected with many and great difficulties, yet I entertain the strongest hope that, sooner or later, the government of the United States will gradually introduce into practice the principles of free trade. No nation ever was in circumstances more propitious for such an act than the American. The debt of the United States is to be paid off within a very short lapse of time; and the annual national revenue promises to be beyond the wants of the federal government. Taxes of small amount will therefore be necessary for the future, to raise by their means a sufficient revenue; and it would perhaps be better if for this purpose another source were adopted. The Americans have so far surpassed all other nations in free institutions, that it has become their bounden duty also, to be the first of all nations that shall fully bring into practice the principles of free trade. This is a debt which they owe to mankind and to themselves.

As all branches of human industry work together to a mutual benefit, and jointly co-operate in the prosperity of each, so also will the different countries of the globe best increase their own wealth when they freely exchange the produce of their respective industry. Restrictive laws always interfere with the natural right of every citizen in applying his mental and bodily energy to such purposes as he may think most conducive to his own interest. In all industrious pursuits the partial protection of one generally means the oppression of another. By protecting one laborer by bounty, the government deprives others of their just rewards; or, in the false opinion to do good, it takes money from the pocket of one man to give it to another.

The exports of a nation cannot prosper without importation; both grow out of each other: so that we cannot reduce imports without also reducing some branches of exports. If, however, as above stated, the property of individuals is best secured by allowing them to follow their own inclination in the different modes of employing their stock of industry, should this same principle be less true with regard to large communities? What is a nation but a society of individuals?

Mr. Cullen justly remarks, "that if freedom of commerce was established, and no monopolies existed, those commercial revolutions which occasion so much distress in the manufacturing districts, by throwing out of employment a great number of workmen, would but seldom, it ever, happen; or be of short duration, and far less disastrous than they have often been." The rates of profit of manufacturers and merchants would then also be less uncertain, or only liable to those changes which are common to the whole productive industry of the country.

The restrictive policy of a nation may affect the interest of another nation, by excluding her from an accustomed and a profitable market; but is a retaliatory system calculated to diminish the evil?—Is it, on the contrary, not calculated to increase it?

An American, for instance, who has invested his capital in the production of grain, may suffer in his interest by the corn laws of Great Britain; but are his sufferings increased or diminished by a retaliation?—are they not increased? He suffered by being partially excluded from a good market; but he doubly suffers by imposing upon himself an additional sacrifice, in laying taxes on English manufactures, which to him are of indispensable necessity, and which he can no where else procure at the expense of so small a portion of his stock or labor. If retaliation did not affect home production and consumption, then it might be just: in all cases, however, where this happens it will but increase the evil; and the evil does not stop here. Such a restrictive policy is also calculated to produce a displacement of capital from its natural channel, by inducing men to establish manufactures that would afford no reasonable profits, if such a prohibitive system was not in existence. These manufactures being founded on an artificial basis, are therefore but a very precarious branch of industry; and exposed to all the vicissitudes of such an artificial existence. As in Europe such an artificial system, which dates from a period when political economy was but little understood, has been followed by almost all nations for centuries, the interest of the greatest number of industrious classes is so intimately connected with it, that it would lead to the greatest possible confusion and misery if this system, false as it is, were given up, and in its stead the principles of free trade were established. But if our freedom of commerce should be established amongst all nations—if so simple an act of common reason should be no visionary dream, then the respective interests of all nations would become thereby so interwoven, the bonds of mutual dependence and friendship would thereby be so much strengthened, that men but very seldom, if ever, would be exposed to the horrors of war; which if all nations were equally enlightened, and all men equally blessed with the divine gift of reason, would be a disgrace to mankind.

The Americans, with regard to a restrictive policy, are circumstanced very different from those of the Europeans. The United States form a young, and in all other respects free county, abounding in numerous resources, and where, if any sort of industry should cease to be profitable, the capital invested in it may far easier be withdrawn than in Europe. The evil occasioned by a restrictive policy in America may perhaps still be cured by a wise system, and gradual change of policy. The Americans, by leaving all experiments, whether a manufacture will yield profit or loss to individual enterprize, intelligence, and capital, would but act in strict conformity to the spirit of their Constitution, framed for the equal protection of all the States. The Federal Government, so eminently popular and enlightened, sooner or later will be forced, I think, to adhere to these principles; and when thereby the well-founded cause of the existing international animosities shall

have been removed, then it will be difficult to persuade me that the Union is any longer in danger. The benefits of this Union to the Americans in general, are however already so great, that the disaffected members would be very unwise and unjust if they did not bear with resignation the actual existing differences in the equal division of the burdens and profits of the whole nation, till, by the irresistible force of reason, they will have carried the point in question, and be as unfettered in their foreign commercial transactions, so far as this will depend on them, as they actually are with regard to their internal commerce.

All the fruits of those distinguished talents which conducted the Americans to their elevated station—all those advantages which they derive from the finest situation and combination which on earth are to be met with—would be destroyed by a dissolution of the Union. Look on the map of the United States! what part of them would you separate from the others, without more or less disturbing the prosperity, the wealth, the influence, and the happiness of the whole? Wherefrom would these States derive that necessary protection for their far extending commerce, but from their united naval power? Wherefore were expended fifteen millions of dollars to France for Louisiana?—wherefore five other millions for Florida? Was it to create new custom-house-officers; or was it not to remove them to the utmost and natural boundaries of the Union? Are those vexations to which a merchant is exposed while carrying his goods along the rivers and roads of divided Germany, of so enviable a nature as to be thought worthy of imitation by a free and an enlightened people? Should the Americans already have forgotten the difficulties under which their commerce labored after the peace of 1785, before its regulation had been entrusted to the federal government? How boundless are not at present the markets for every industrious American, in whatsoever State of the Union he may have fixed the abode of his industry? What country is connected by so many, so easy, and such natural interior communications? And are not these natural and artificial bonds of the Union yearly increased, or brought to a greater degree of perfection? What was New Orleans under the Spanish Government?—a swampy village!—What is it now?—after New York, the first and most important mercantile city in the whole Union. The Americans *united* may defy all other nations,—*separated*, they are nothing! If, therefore, it should be permitted to suppose, as I think it is, that a sound judgment with regard to its true interest does or ultimately will prevail with a nation that perhaps excels all other nations in common sense—if one may also suppose that on such a nation the powers and intrigues of personal ambition or party spirit never will be permitted, at least for any length of time, to exercise their baneful sway—then one may entertain the opinion, I think, that the Union of North America will not be disturbed.

The sentiments and anticipations of this extract, long as it is, should be pondered by all Americans. It is the judgment of an impartial and enlightened observer.

Traveller's Directory, and Map of the United States. C. S. Williams, *New Haven*. New York: Betts & Anstice.—In a little duodecimo, thin and portable, we have here a map upon quite a tolerable scale, and well engraved and colored, of the United States; and a corresponding sheet of letter press, on which is presented a list of all the steamboat and canal routes in the country, with the distances between the intermediate places, the principal roads, the statistics of each State, the time at which each was settled, and the population of every separate county—all too for 75 cents. It is certainly a cheap treasure.

In a late Boston paper we find the following annunciation of a forth-coming volume of Poetry,—which, from the talent displayed, in several fugitive pieces, by the same author, we look forward to with pleasure.

Poetry.—An elegant volume of Poems by Grenville Mellen is about to be published by Lilly, Wait, & Co.—being the Martyr's Triumph, Buried Valley, and numerous minor pieces. The two we have named will be found, we think, to possess a character exceedingly interesting to the public and equally creditable to the accomplished author. Both are founded on fact; the latter upon the memorable avalanche in the Notch of the white Hill which occured a few years since. Mr. M., having passed several months in that vicinity, has made himself perfect master of both the history and scenery of that singular spot, and has wrought them into a story of thrilling interest. All the travelling parties which go in that direction this season, should consider this volume an indispensable *vade mecum*.

Boys and Girls' Library of Useful Knowledge, Vol. XIII. New York, J. & J. Harper.—This is the second part of the undertaking of the same author, to familiarize to young minds the Bible history, by throwing its striking incidents into familiar dialogues, adapted by their phraseology and simplicity to the comprehension of children. Volume IV of this series furnished the first part, and there is yet a third to come. The object is not "to supersede, but assist, the reading of the sacred volume," by imparting the explanations which are requisite to make that volume intelligible. It is executed with good judgment throughout.

The Life and Adventures of Dr. Dodimus Duckworth, to which is added *the history of a Steam Doctor*—by the author of a Yankee among the Nullifiers. 2 vols. New York: Peter Hill.—If the impositions and quackery of medical pretenders can be crushed by ridicule and humor—coarse enough in general, but sometimes quite amusing—these volumes might effect some good in that way. But they who trifle with life for a living, and assume to deal with the ailments and accidents of the human body, without knowing any thing of its structure or functions beyond what is revealed to every eye, can hardly be shamed out of their mischievous career.

View of the New York Quarantine—Staten Island.—A spirited and accurately colored engraving, executed by *W. I. Bennet*, has just been published by *Parker & Clover*, 180 Fulton street. It is true to the life and full of movement and animation.

Polynesian Researches, by *William Ellis*, in four volumes, vol. I. *Harpers*.—This is a judicious reprint of an English work that has received high commendation abroad. The tone of the book is good, and it is the most complete account of the South Sea Islands extant. The early institutions and the obsolete manners and customs, as well as those now prevailing in these countries, are, with every thing relating to their inhabitants, minutely detailed, their arts, manufactures, and antiquities being neatly illustrated with wood cuts, well printed upon fine hard paper.

There has always been much in these far-away islands of the Pacific to interest one in the accounts which, from time to time, have been given by voyagers of their beautiful scenery, their delicious climate and magnificent vegetation—of those wooded bays and mountain-circled friths, where the cathedral Aoa bends its mazy branches over calm blue waters, fenced by reefs of coral from the sea, and the palm and the cocoa rear their stately columns against a sky fitted to be the dome of such a chosen temple of Nature; where fruits and flowers succeed each other so rapidly, that seed time and harvest fall together, and jocund spring and mellow autumn unite in giving life and loveliness to the land; where

"—— the leaf never dies in the still blooming bowers,
And the bee banquets through the whole year on the flowers."

They seem—these remote and delicious spots—in this wandering era of the earth, when every corner of it is ransacked and turned topsy-turvy, like a little world by themselves, which, if unmolested by visiters from less favored climes, would be the last resting point of man in his primitive state—a sort of jumping-off place for Poets and Romancers—where some Prospero might yet wave his magic wand through a spirit-peopled air, and some delicate minister of his will load, Ariel-like, the passing breeze with music. Certes, we know that were honest Will alive at this moment, he would "change the *venue*" of the Tempest from the salt-stewing Bermudas to the fairy land described below:

Every writer on the South Sea Islands has been lavish in praise of their scenery. Malte Brun observes, "A new Cythirea emerges from the bosom of the enchanted wave. An amphitheatre of verdure rises to our view; tufted groves mingle their foliage with the brilliant enamel of the meadows; an eternal spring combining along with an eternal autumn, displays the opening blossoms along with the ripened fruits." When speaking of Tahiti, he remarks, that it "has merited the title of Queen of the Pacific Ocean." The descriptions in Cook's Voyages are not exaggerated, and no scenery is adapted to produce a more powerful or delightful impression on the mind of those who traverse the wide ocean in which they are situated, than the islands of the South Sea. The effect on my own mind, when approaching Tahiti for the first time, will not easily be obliterated.

The sea had been calm, the morning fair, the sky was without a cloud, and the lightness of the breeze had afforded us leisure for gazing upon the varied, picturesque and beautiful scenery of this most enchanting island. We had beheld successively, as we slowly sailed along its shore, all the diversity of hill and valley, broken or stupendous mountains, and rocky precipices, clothed with every variety of verdure, from the moss of the jutting promontories on the shore, to the deep and rich foliage of the bread fruit tree, the oriental luxuriance of the tropical pandamus, or the waving plumes of the lofty and graceful cocoanut grove. The scene was enlivened by the waterfall on the mountain's side, the cataract that chafed along its rocky bed in the recesses of the ravine, or the stream that slowly wound its way through the fertile and cultivated valleys, and the whole was surrounded by the white-crested waters of the Pacific, rolling their waves of foam in splendid majesty upon the coral reefs, or dashing in spray against its coral shore.

So much for a sea-side approach to these floating edens that heave their verdurous bosoms above the bright Pacific as if they swam upon its silver surface; and now to contrast this glowing picture with an inland landscape:

In the exterior or border landscapes of Tahiti and the other islands, there is a variety of objects, a happy combination of land and water, of precipices and plains, of trees often hanging their branches, clothed with thick foliage, over the sea, and distant mountains shown in sublime outline, and richest hues; and the whole, often blended in the harmony of nature, produces sensations of admiration and delight. The inland scenery is of a different character, but not less impressive. The landscapes are occasionally extensive, but more frequently circumscribed. There is, however, a startling boldness in the towering piles of bassalt, often heaped in romantic confusion near the source or margin of some crystal stream, that flows in silence at their base, or dashes over the rocky fragments that arrest its progress: and there is the wildness of romance about the deep and lonely glens, around which the mountains rise like the steep sides of a natural amphitheatre, till the clouds seem supported by them—this arrests the attention of the beholder, and for a time suspends his faculties in mute astonishment. There is also so much that is new in the character and growth of trees and flowers, irregular, spontaneous, and luxuriant in the vegetation, which is sustained by a prolific soil, and matured by the genial heat of a tropic clime, that it is adapted to produce an indescribable effect. Often when, either alone, or attended by one or two companions, I have journeyed through some of the inland parts of the islands, such has been the effect of the scenery through which I have passed, and the unbroken stillness which has pervaded the whole, that imagination, unrestrained, might easily have induced the delusion, that we were walking on enchanted ground, or passing over fairy lands. It has at such seasons appeared as if we had been carried back to the primitive ages of the world, and beheld the face of the earth as it was perhaps often exhibited, when the Creator's works were spread over it in all their endless variety, and all the vigour of exhaustless energy, and before population had extended, or the genius and enterprize of man had altered the aspect of its surface.

To enable them to enjoy these rich bounties of nature in all their fulness, the inhabitants of these islands are blest with a climate so bland and equable, that they can live without inconvenience in the open air through the greater part of the year.

The *Climate* of the South Sea Islands is in general regular, and though considerably hotter than in Europe, is more temperate than that of the East or

West Indies, or those parts of the continent of America that are situated in the same latitude. This is probably occasioned by the vast expanse of ocean around: for though only 17 degrees from the equator, the thermometer in the shade seldom rises higher than 90, while the general average in some of the Islands is not more than 74. During the time the Duff remained in Tahiti, from March to August, 1797, the thereometer was never lower than 65, and seldom higher than 73: and between the months of April and August, 1819, it ranged in the morning from 68 to 78, at noon from 75 to 84, and in the evening from 70 to 78. Sometimes it rises for a short time much higher than 90, but I never saw it so low as 60. The heat is constant, and to a European debilitating, though much less so than that of an Indian climate. To the natives it is genial, and, except in the immediate neighborhood of their stagnant waters or marshy ground, is salubrious. They experience no inconvenience from the heat, and often, when the mornings have been gratefully cool to a European, they wrap themselves in their warmest clothing.

The climate is remarkable serene and equable; its changes are neither violent, frequent, nor sudden.—This circumstance, were it not for the constant heat, would render it remarkably salubrious.

Mr. Ellis' view of the original sources of population to these islands is about as satisfactory as most of such speculations, without being as wild as those of some writers who would derive the Sandwich Islanders from the ancient Greeks because they wear helmets of woven feathers shaped exactly like an Athenian casque. The length of his theory, however, prevents our quoting it, as we have barely room to add this notice of a domestic trait:

Moral Disposition.—Next to their hospitality, their cheerfulness and good nature strike a stranger. They are seldom melancholy or reserved, always willing to enter into conversation, and ready to be pleased, and to attempt to please their associates. They are, generally speaking, careful not to give offence to each other: but though, since the introduction of Christianity, families dwell together, and find an increasing interest in social intercourse, yet they do not realize that high satisfaction experienced by members of families more advanced in civilization. There are, however, few domestic broils; and were fifty natives taken promiscuously from any town or village, to be placed in a neighbourhood or house—where *they* would disagree once, fifty Englishmen, selected in the same way, and placed under similar circumstances, would quarrel perhaps twenty times. They do not appear to delight in provoking one another, but are far more accustomed to jesting, mirth, and humour, than irritating or reproachful language.

We must not take leave of this volume without mentioning that it contains some highly satisfactory and gratifying information in regard to the effect produced by the Christian missionaries upon the domestic habits of the Polynesians.

THE COAST SURVEY is in steady progress under the capable hands of *M. Hassler*. We have before had occasion to applaud the appointment of this distinguished experimental Astronomer to conduct this national work, and to fortify our own opinion on that head by those of other and more competent judges: we now offer another proof in the annexed translation of an extract from the astronomical journal of M. Schumacher, in Altona, No. 239, page 385.

M. HASSLER is already since three years again in active employment for the general government of the United States of America; at first for hydrometric experiments to establish proper regulations for the collection of the duties upon spirituous liquors, and for the comparison of the Weights and Measures of the United States, with a view to the future uniformity of the same.

By an act passed at the end of the long session of Congress, 1831-2, the law of 1817, excluding M. H. from the coast survey, (namely, that none but naval and military officers should be employed in it,) and which had the interruption of the whole work for its consequence, was abrogated, and liberty given to the Executive to appoint any superintendent whatever. Upon this, President Jackson re-appointed immediately M. H. to that situation, under the same arrangements as heretofore.

The Editor of this journal cannot omit herewith to present to the Government of the United States his thanks, in which all men who take an interest in exact science [illegible] join him, for having taken up again this beautiful work, that had been begun by M. H. 16 years ago. This work could certainly not be executed better by any other man than him, who in its beginning already had shown so much talent.—The freedom now given to him in the selection of his assistants, is an equally wise, and as the editor knows by his own experience of many years, an *indispensable condition of success.*

FOREIGN INTELLIGENCE.

TEN DAYS LATER FROM ENGLAND.—By the packet ship Roscoe, Capt. Rogers, we have English papers to June 25th. By the packet ship Rhone, there are French papers to June 18th.

The political intelligence is of some importance, though the commercial accounts have recently assumed a comparatively greater importance.

The bill for the abolition of West India Slavery has passed the House of Commons and been sent to the Lords. Upon the Irish Tithes bill, as in the slavery question, ministers had thought best to yield something of their plan, in order to secure co-operation. All departments of mercantile enterprise appear to be in a very satisfactory condition in England, and on the continent.

The brothers of Portugal are still looking each other in the face, but without any decisive conflict.

The French Chamber of Deputies has postponed the consideration of the treaty with the United States until another session. The Ministers seem never to have presented the subject to the Chambers until now. Marshal Soult, President of the Council, said in the Chamber of Deputies, that "Government had not the remotest idea of evacuating Algiers."

It is said that his Majesty, as the Head of the Church, has addressed a strong letter of remonstrance, through the Archbishop of Canterbury, to the Bench of Bishops, and especially to the six or seven who distinguished themselves by their vote on the Portuguese question, relative to their conduct under the present critical circumstances of the nation, expressing his surprise that they should expose themselves to the imputation of acting from factious and worldly motives,—thus sacrificing all claim to the respect of the religious community, and exposing the Church to the danger of losing its influence, by their being ultimately driven by the power of public opinion from their seats in Parliament, if their votes, as spiritual seers, were not regulated by more discretion and attention to the signs of the times!"—[Sun.]

CONSTANTINOPLE, MAY 28.—(By Express.)—Ibraham Pacha has really commenced his retreat, and preparations are making in the Russian camp, which indicate a speedy withdrawal of the troops. The official news that the Egyptian army had actually commenced its retreat arrived yesterday. The Reis Effendi immediately communicated it to the foreign Ambassadors, and Count Orloff repeated his declaration that the Russian army should retire as soon as he was certain that the Arabs really had retreated, or only had made a pretended retrograde movement. A Russian officer of the general staff has therefore, been despatched to Koniah, to learn the real intentions of Ibraham, and to be sure that he does not pretend to retreat, to give the Anti-Russian party a pretext to demand the retreat of the Russian auxiliaries, which that party eagerly desires.

Prudence is therefore necessary, and Count Orloff cannot be blamed for desiring to free himself from all responsibility. The latter agreed with him, and Lord Ponsonby finds it natural that he should desire to be certain before he acts. Admiral Rousin dislikes delay, and says there is no doubt of Ibrahim's retreat.

LONDON 23d JUNE.—*Royal Institution.*—Friday evening Mr. Brockedon delivered a lecture upon the properties and present uses of caoutchouc, or Indian rubber, the former uses of which were only for the rubbing out pencil marks. It was introduced into this country about a hundred years since, and is now used for making water-proof clothes, and elastic materials of every description. It is particularly adapted to surgical bandages, and all materials where an equal pressure is required, which can be regulated by the wearer. The lecturer stated that he was much indebted for the substance of his lecture, and the materials furnished, to Messrs. Cornish & Co. of Holloway, who have a very extensive factory.—The cutting of the Indian rubber into fine threads is done by machinery, and so rapid are the effects of the machine, that two girls, by the aid of steam power, can cut into threads not much coarser than thick sowing thread, 240,000 yards per day, 80,000 yards of which weigh a pound. A curious experiment was also exhibited, the strengthening of rotten Indian rubber; a strand being dipped in a solution, immediately became perfectly strong. The lecturer stated, however, that his hearers might wish to have the knowledge of this secret. He was not acquainted with it, but the result was certainly most important to the professors of it. The machinery, and secret mode of strengthening the Indian rubber, although in the hands of Cornish & Co., he stated was the invention of Mr. Sievier, the sculptor.—Whale fishing lines, elastic cables, and ropes, were exhibited, and their utilities ably spoken of by the lecturer.

Daily Post from Paris.—The *Moniteur* has the following:—"A convention has just been signed between the Duke of Richmond, Postmaster-General in England, and M. Comte, Director of the French Post Office, establishing a daily communication between the two countries, instead of only four times a week. This treaty, besides affording a more frequent correspondence, will give an acceleration to the interchange of letters, and allow the mutual conveyance of intelligence from one country to the other in 36 hours, instead of taking three, and sometimes four days, as hitherto. This is a real benefit rendered to the two nations.'

According to the French savans who have accompanied the expedition to Algiers, the tribes of Berbers who inhabit the mountains of the lesser Atlas, from Tunis to the empire of Morocco, are the ancient Numidians described by Sallust; and are precisely the same, with regard to manners, customs and civilization, as at the period of the war of Jugurtha, more than a century before the Christian era.

Portable Theatre!—Mr. Faucit Savill has had constructed a portable theatre, capable of containing 800 persons. It is built of sheet iron, and may be taken asunder for conveyance from town to town, by van or wagon, without drawing a nail. Mr. Savill was to open it at Herne Bay on Friday with a respectable company.

On the 2d ult., at Paris, a bronze statue of Napoleon, made of sixteen cannon captured during his reign, was most successfully cast. A number of distinguished men of science and letters, and the Minister of Commerce and the heads of the public works, were present at the process. The statue is eleven French feet high, and in Napoleon's usual dress or drapery,—uniform, three cocked hat, eyeglass, sword, spurs,—so as to produce an exact resemblance in the *tout ensemble.* It was to be placed on the great column in the *place Vendome.*

EXPORTS AND IMPORTS.—A parliamentary paper, moved for by Mr. Spring Rice, has just been laid before the House of Commons, of a nature highly consoling to the balance of trade politicians. It is a return of the official value of the exports and imports of the united kingdom for the two last years. The return for the year ending 5th January, 1833, distinguishes the countries from and to which the exports and imports are made; that for the year ending 5th January 1833, do not, only giving the totals, on account of the long time it would take to make out the details. The totals of the two years stand thus: official value of the imports into the united kingdom, for the year ending January, 1832, £49,727,180; of the exports, £71,431,491. In the year ending January, 1833, the official value of the imports fell to £44,586,241, whilst that of the exports rose to £76,071,572. Those who think that the annual balance of exports over imports shows a receipt of so much in hard cash, which we bank up for emergencies, must feel highly delighted at the result thus exhibited. If the fancy pleases them we should be loth to disturb their enjoyment; but we must still do two things—first, recommend Miss Martineau's "Snoek and Vanderput" to their consideration; and, second, beg them to inform us what has become of the millions of balances we have had in our favor for many years past? The increase in the exports of the last year above-mentioned is shared in tolerably equal proportions between our own manufactures and colonial produce, the exports of foreign and colonial produce, in the year ending January, 1832, having been £10,745,126, and in the year ending January, 1833, £11,044,868, whilst the exports of British and Irish manufactures and produce were, in the corresponding periods, £60,686,364, and £65,026,702. The country with which we have the greatest trade is the United States of America. In the year ending January, 1832, the amount of our exports to that eldest of our offspring was £12,596,173, and of our imports from her £8,970,

342. Our next best customer, as far as exports are concerned, is Germany, which takes from us £9,473,627 worth of produce, of which £7,667,147 is the produce and manufactures of the United Kingdom. The value of our exports to India and China is £6,947,600, and of our imports thence £7,920,182. At the present moment it may be interesting to state, that our imports from the British West Indies amount to £8,448,839, while our exports amount to £3,988,286.—[London Sun.]

MEXICO.—Accounts from Tampico have been received via New Orleans to July 4th. That place had been in a state of great excitement for several days, owing to information having been received that the garrison at Metamoras had declared in favor of the plan of Morelia, and that it had despatched a body of troops to take possession of Tampico, who had already arrived within a day's march of it. Tampico was in a poor state of defence, but every preparation was making to prevent their entry.

The Cholera had entirely disappeared from Tampico. A Conducta had arrived there on the 28th of June, with $700,000.

The following paragraph from the St. Louis (Mo.) Republican, of 12th inst., shews in a curious and quite characteristic manner, the influence which our ordinary political habits and institutions exercise, even upon a trading party in the heart almost of a wilderness:

From the Santa Fe Caravan.—Letters from some of out traders, as late as the 20th June, have been received in this city. They were then assembled at the Diamond Grove, about 160 miles from Independence, in this state. On the 19th, an election for officers was held. Mr. C. Bent was elected to the Captaincy; Messrs. Legrave, Barnes, Smith and Branch, Lieutenants. There were one hundred and eighty-four men belonging to the expedition, and ninety three wagons, carriages and dearborns attached to it, sixty-three of which were loaded with goods. The company had suffered very much from the badness of the roads, caused by the great rains which had fallen there, as every where else. We have understood, though the letter we have seen does not allude to it, that the traders are under the escort of a company of Rangers.

SUMMARY.

The gallant BAINBRIDGE is no more. He died in Philadelphia on Saturday, in the 60th year of his age, after long illness. His funeral, which was to take place yesterday, was to be attended by all the officers of the Army and Navy on the Station, the officers of Militia, and the Civil Authorities and Citizens. So it should be; for the name of Bainbridge is of those that claim the fullest measure of gratitude from the country he so nobly served.

Commodore Chauncey, (says the National Intelligencer of Wed'sday,) has arrived in this city, and proceeded to the discharge of his duties as one of the Commissioners of the Navy Board.

[*From the Missouri Republican.*]

ST. LOUIS, JULY 16.—*From the "Far West."*—The Steamboat Assineboine, B. Pratte, jr. master, arrived on Thursday night last, from the mouth of the Yellow Stone, with a full cargo of furs, skins, &c. for the American Fur Company. By this arrival we learn, that the Steamboat Yellow Stone lost three of her hands and a pilot, by the cholera, while ascending the river, near the mouth of the Kansas. We also learn that FAMINE—a calamity more dreadful than the Cholera—threatens the inhabitants of the immense region of the Upper Missouri. No Buffalo had appeared upon the plains of that country during the past spring; and the Indians, in the thriftless economy which governs them at all times, were in consequence destitute of means of subsistence. Even the traders were compelled to subsist on Buffalo tongues, (obtained during a preceding season,) and corn; and the voyageurs had not this fare allowed to them. No one has, we believe, pretended to account for this disappearance of the immense herds of Buffalo which covered those regions. It was observed, by persons who were in the Assiniboine, and who have been in the habit of navigating the Missouri, that points at which vast numbers of Buffalo had always been known to herd, were deserted, or but a single one now and then seen.

A most bountiful Harvest has crowned the labors of the farmers of this State, and of Illinois. The Wheat crop has, generally, been secured, and is very abundant—far more than sufficient for the supply of the country.

Michigan Iron Ore.—Within a few days past, has been discovered on the farm of the Rev. Mr. Armstrong, in the town of Nankin, Wayne Co. an extensive and rich bed of Iron Ore. We have seen a fair specimen of this ore, and believe it to be of a far more than ordinary quality.—[Detroit Courier.]

The Hon. Wm. J. Duane, Secretary of the Treasury, arrived in town on Monday evening, and has taken lodgings at Bunker's, Broadway.

The "Courier de la Louisiane," of the 13th inst. states that the two steamboats that carry the U. S. Mail between New Orleans and Mobile, have both burst their boilers. "The accident occurred to one in the beginning of the week, and to the other yesterday—we understand the engineer was killed, and two other men slightly wounded. The contractors, we hope, will immediately supply their places."

It appears from an official article in the Globe of yesterday, "that Port Lamar, formerly called Cobija, in Bolivia, has been declared free; it is situated at the mouth of the little river Salado, in the confines of the sandy desert of Atacama. Negociations have been pending between Bolivia and Peru, for the purpose of obtaining from the latter the cession of a narrow slip, along the Pacific, in which is situated Arica, a port possessing every advantage for the supply of Bolivia. But the Peruvians have hitherto proved inflexible, and determined to keep it, even at the risk of war, under the impression that, in the end, the whole commerce of their neighbors must centre in Arica. Bolivia now holds out the inducement of a free port at Port Lamar; and Peru will, probably, ere long, come forward with similar advantages to Arica."

THE CHOLERA seems to have acquired fresh virulence in some of the Western cities. A letter from *Cincinnati* of the 25th inst. says, "The Cholera has burst upon us again with violence; the day before yesterday, we had upwards of 30 deaths,—and among them some of our best citizens, male and female. One of our first physicians now lies *in extremis*. He was attacked at 3 this morning."

The Chilicothe paper of 24th states that "within the last few days, there have been several cases of Cholera in our town and neighborhood."

On this side of the mountains we believe no Cholera at all exists.

The President of the United States left Washington on Friday on a visit to the Rip-Raps, the fortified artificial island near Old Point Comfort.

[*From the Richmond Enquirer.*]

MR. J. RANDOLPH OF R.—We understand that Mr. Randolph's papers have been ransacked, and that no will of a later date has been found. The public curiosity has been so much excited upon this subject, that we may be excused for noticing the present state of the facts, as we understand them.

Judge Leigh is said to have in his possession, two Wills in Mr. R.'s handwriting—the 1st is dated in January 1822; the 2d in March 1832.

The 1st directs his slaves to be manumitted, and makes provision for their maintenance, and we believe removal, under the superintendence of Bishop Meade, and of Francis, Key Esq.—and bequeathes the residuum of his Estate to Judge Leigh. This Will is said to have been subsequently "cancelled" by Mr. R., and his signature to have been cut out.

The second Will makes no provision for the manumission of his slaves—and its principal legacies are, 1. $10,000, to Judge Henry St. G. Tucker. 2. $10,000 to Judge Leigh. 3. $5000 to John Randolph Leigh, a young son of Judge L. 4. Gascoigne and a filly and some plate to Mr. John Wickham. 5. Two fillies and a pair of candlesticks, to Mr. Macon. 6. His carriages and horses, and some French plate to Dr. Brockenbrough—and the residue of his estate to the eldest son of his niece, Mrs. Bryant, of Gloucester, a daughter of Judge Coalter—with the reversion, in case of the death of the boy, about 20 months old, without heir, to the eldest son of Judge H. St. G. Tucker—and in case of *his* death, to the Judge's next son, &c.

This last Testament will probably be offered for Probate to the next Charlotte Court. It may perhaps be contested by the trustees for the slaves, upon the ground that the first will may be good—or, it may perhaps be contested by other parties, upon the ground, that neither of the Wills is good—and in this case that the whole property should be distributed according to the provisions of the Act of Assembly.

It is probable, indeed, that the subject may give rise to some litigation—in which case, it may become hereafter the duty of the Court of Appeals to decide the whole matter.

DESTRUCTIVE FIRE AT WATERFORD!

(Correspondence of the Evening Journal.)

Waterford, (Saratoga Co.) July 26.

We have just subdued one of the most ruinous fires which has ever been visited upon our village. Almost the entire part of the town, upon which our extensive *mechanical* and *manufacturing* operations were carried on, is now in ruins. The loss is immense, and falls almost entirely on that enterprizing class of our citizens which constitute the life of all our business operations. The fire was discovered in the new machine-shop of Kimball & Co. about 2 o'clock this morning, and before the citizens had collected to much extent, the roof had tumbled in, and the fire had communicated to the shop of Messrs. King, Wing & Co. on the south, and Messrs. Olney, Ambler & Minor on the north; the last contained about 8000 dollars' worth of machinery—loss very heavy. From thence it caught to the roof of Waterford Cotton Factory, and raged with such violence, that before we could arrest its progress, the two upper stories, with almost the entire machinery, and much valuable property, was either consumed or dashed to pieces, in the attempt to save it from the devouring element. The walls of this great building remain almost unbroken, only to give prominence to the surrounding desolation. The Fire Engine Manufacturing Company, are sufferers to a considerable extent, say in all, four or five thousand dollars.—The company of Olney, Ambler & Miner, about $10,000: Mr. Blake, $2000; and the Cotton Factory $15,000: besides, some eight or ten different branches, which were carried on in the same buildings, of more or less importance. The loss amounting in all to from forty to fifty thousand dollars.

About four hundred industrious mechanics are dependent upon the mercy of the public for employment in consequence of the fire. J. H.

ALMOST CAUGHT.—The sloop Fame, commanded by Capt. P. C. Myrick, an old whaler, with a picked company of experienced officers and seamen, sailed this morning on a whaling cruise in Massachusetts Bay; principally for the purpose, however, of determining the question of the existence of that celebrated nautical non-descript, the Sea-serpent: which question, if affirmatively decided, will immediately be followed by his capture, dead or alive. Sharp eyes, that from long practice cannot be deceived, have gone to look after him; and sharper weapons, to be wielded by muscles and nerves that have been accustomed to grapple with Leviathan, are prepared for his certain overthrow. The Fame has a complement of 14 skilful men, and carries two whale boats, with every sort of apparatus for encountering any manner of monster which may dare to show itself. Among the implements of destruction on board, are sundry harpoons of a new construction, (for which a patent has been granted to a gentleman of this place) made at the Phœnix Iron Foundry, Providence—one thrust from which will inflict instant death. This description of harpoon carries within its barb, a dose of concentrated poison, the most subtile which human science has yet been able to discover. With these preparations, we have not the slightest doubt that a most satisfactory account of the serpentine giant will very shortly be rendered—provided nevertheless, there *be* such a creature, inhabiting the waters of this region.—[Nantucket Inquirer.]

Our readers will be gratified to learn, by the following extract from the Boston Daily Advertiser, that young Frothingham who disappeared so strangely from the Oneida Institute, in April last, has been heard from.

MR. FROTHINGHAM.—This gentleman, whose disappearance from the Oneida Institute a few months since was made the subject of much public comment, as he was supposed to have perished, has recently been heard from. Letters from him, dated Liverpool, May 27, are published in the Salem Gazette. He states that owing to the effect of close application, at the institution, he felt occasionally that his thoughts were wandering. About the 5th of April, this occurred more frequently than before, and he knows not how he spent much of the time between that date and the 8th. After the 8th, he observes that every thing is confused in his recollection. He remembers only, that, finding himself in a strange place, he inquired where he was, and was answered in Montreal. He remembered nothing further until he found himself, in May, on board a vessel bound from Quebec to Liverpool. He appears to have wandered for a considerable time, and to have embarked for England without any consciousness of what occurred.

Scarlet Fever.—In looking over a recent publication on the disease of the skin, we have found the observations mentioned below, on the subject of preventing an attack of the Scarlet Fever. Although we do not place implicit faith in its property of prevention, still the respectability of the author, and the fair opportunity now offered in this community of testing its virtues, induces us to make the translation.

As a preservative means from Scarlet Fever, *belladonna* has been proposed and employed with success in Germany and Switzerland. M. Biet, (Doctor of Medicine, Physician of St. Louis Hospital, Paris, Member of A. R. of Medicine, &c., &c.) has seen this disease, raging epidemically in the high valley of Switzerland, respect, almost without any exception, all the children to whom belladonna had been administered. We should not then hesitate to have recourse to it, ere it becomes epidemic in a village, town, &c.

The tincture is the preparation the most convenient, and the form under which it seems to act with most efficacy. It is given in doses of six drops daily to children of eight or ten years—augmenting or diminishing the dose, according to age, &c. of each individual. It is generally necessary to continue the use during ten or twelve days. It has moreover been established in an evident manner, that in the small number who have not been preserved from the Scarlet Fever by the balladonna, the attack was always simple, benign, and of little duration.—[Georgia Farmer.]

A Western Warrior.—"The western warriors, in full dress, as for a great dance, wear two or three clasps of silver about their arms, generally jewels in their ears, and often in the nose. In fact, it is as common among these tribes to see a thin circular piece of silver, of the size of a dollar, hanging an inch or two from the nose, as it was among the ancient Indians to see a piece of carved bone or stone in the same situation. Then painted porcupine quills are twisted in the hair. Tails of animals swing from the ears behind. A necklace of bear's or allegator's tooth, or claws of the eagle, or red bears; or, if nothing better can be had, perhaps a string of red thorn-plums, hangs from the neck. The brass bells are laid thick on the lower part of the dress. Add to all this finery an American hat, and a soldier's blue coat faced with red, and your modern Indian *dandy*, stepping firmly on the ground to give his tinklers a fair chance to sound together, apparently regards his attractions with as much complacency as the human bosom can be supposed to feel."—[Thatcher's Indian Traits.]

A Lady of the Old Court.—Lady Sundon is dead and Lady M—— disappointed: she, who is full as politic as my Lord Hervey, had made herself an absolute servant to Lady Sundon, but I don't hear the she has left her even her old clothes. Lord Sundon is in great grief: I am surprized, for she has had fits of madness ever since her ambition met such a check by the death of the queen. She had great power with her, though the queen pretended to despise her; but had unluckily told her, or fallen into her power, by some secret. I was saying to Lady Pomfret, 'To be sure she is dead very rich!' she replied with some warmth, 'She never took money.' When I came home, I mentioned this to Sir R. 'No,' said he, 'but she took jewels; Lord Pomfret's place of master of the horse to the queen was bought of her for a pair of diamond ear-rings, of fourteen hundred pounds value.' One day that she wore them at a visit at old Marlbro's, as soon as she was gone, the duchess said to lady Mary Wortley, 'How can that woman have the impudence to go about in that bribe?' 'Madam,' said lady Mary, 'how would you have people to know where wine is to be sold unless there is a sign hung out?' Sir R told me, that in the enthusiasm of her vanity, Lady Sundon had proposed to him to unite with her, and govern the kingdom together: he bowed, begged her patronage, but said he thought nobody fit to govern the kingdom but the king and queen.—[Sketches of the Court of England, (1741,) by Horace Walpole.]

An Estimate of Sir Robert Peel's Character.—All eyes seem to be at this moment turned to the part which Sir Robert Peel is acting, and is about to act. The tories, judging from the undisguised language of some of their organs, seem to be ready to break out into open hostilities with him; while the whigs approach him in a tone of adulation, the motives and the expectations that give rise to which cannot be misunderstood. On the one hand the friends of ministers do not hesitate to give out that the right hon. baronet is on the eve of joining them; a report, which, on the other hand, many of the warmest of his friends and admirers are not less anxious as flatly and unequivocally to contradict. On which side the truth lies, we, of course, have no means of deciding; but this we know, that men of far more transcendent talents than Sir Robert Peel possesses have ere now neutralized their consequence, and sunk into comparative littleness, by sacrificing to the love of power and place their character for political consistency and integrity. Though we have never been among the ardent admirers of Sir Robert Peel, we are not the less inclined to concede to him the full meed of reputation for the qualities which he really possesses. To the character of a statesman in a large and comprehensive sense he has but few claims. His real merits consist in an unblemished private character, great knowledge and expertness in the tactics of debate, and a business-like knowledge of details which few public men of the present day have either had the opportunity or been at the pains to acquire. As a Home Secretary it is no great praise to say that he immeasurably surpassed his successor; while as a law reformer he was little more than the machine of others, with minds like his own, far from being in advance of the spirit of the age. Yet in the dearth of public talent into which the country has unhappily fallen, (for, whatever there may have been in past times, there are no giants in these days,) we are free to confess that Sir Robert Peel is a man who is entitled to occupy no inconsiderable space in public estimation, and that the public are naturally interested in the course which he is likely to pursue. —[Morning Herald.]

Surprising Horsmanship.—On the morning of the 20th, Captain Parker, of the Royal Artillery, quartered at Charlemont, rode his bay horse, the Admiral, from Charlemont to Newry and back in 2 hours and 25 minutes—a distance of 53 English miles.—The time allowed for the performance was three hours; but the captain having got considerale odds that he would not do it in two hours and a half, won all his bets by having five minutes to spare. Thus did he accomplish the astonishing distance of 21 miles an hour with one horse, which exceeds, by far, all feats of horsemanship ever performed in the sporting world.—[Dublin Evening Packet.]

Beech Trees proof against Electrical Fluid.—A correspondent of the American Farmer states, that it is a very common opinion among surveyors and woodsmen of the western states, that the beech tree possesses the non-conducting power ascribed to the cedar; "I presume," says he, "I have passed a hundred oaks which have been stricken, and although beech is more common than any other timber, I have not discovered one of that kind."

The Commeree and Navigation of Massachusetts.—The shipping of this State is more numerous than that of any State in the Union, and in the extent of its foreign commerce, it is second only to New York. The value of imports into the State during the year ending Sept. 30, 1833, was $18,118,800, of which 17,670,184 in value, were imported in American vessels. The value of exports from the State in the same year, was 11,993,768, of which 4,656,635 in value, was of domestic produce. The amount of shipping owned in the State, and employed in the foreign and coasting trade, and in the fisheries, on the last day of December, 1831, was 442,676 19 tons—it being 4,837 78 tons greater than the amount owned and employed in the business in the state of New York.

The fisheries were formerly considered of greater importance than all the other maritime interests of Massachusetts. They are still important, and the state continues more extensively engaged in them than all the other states of the Union. The shipping in this state employed in the fisheries on the last day of December. 1831, amounted to 142,733 74 tons, of which 69,055 51 tons were engaged in the whale fishery, 38,724 88 tons in the cod fishery, and 34,943 32 in the mackerel fishery.

Of the shipping of Massachusetts, 17,659 tons belong to the district of Newburyport, 1,567 to Ipswich, 12,838 to Gloucester, 25,539 to Salem, 6,914 to Marblehead, 138,174 to Boston, 17,877 to Plymouth, 3,899 to Dighton, 64,049 to New Bedford, 26,857 to Barnstable, 2520 to Edgartown, and 24,978 to Nantucket.—[Taunton Gazette.]

We have more than once adverted to a novel, and what we cannot help considering, an un-English (*quera*, American?) practice which has risen up of late years,—that of public meetings being held, apparently for no other purpose but that of enabling the leading persons attending them to bespatter themselves with praise, and move votes of thanks to each other. The fulsome speeches which we hear delivered in men's presence, when their healths are toasted at public dinners, are bad enough—though here the well known adage, "that wine and wit do not always flow in equal currents," may afford some excuse; but there is none for the practice prevailing a more sober meetings, and least of all, at meetings connected with religious subjects, at which minds rightly constituted must look, we should hope, to some quieter and more valuable satisfaction than personal flattery can bestow. As a specimen of the bad taste we allude to, we would refer to the proceedinds of "the Society for Building Churches," which appeared in our columns on Saturday, where Lords, Bishops, and Deans, seem to have vied with each other in their race of mutual adulation.

But perhaps, after all, a useful moral may be drawn from the instance of bad taste which we have alluded to, and that the persons in question, in putting themselves thus forward as a specimen of their own sublime, mean to furnish a striking proof that "all is vanity."—[London Paper.]

Balsam of Mecca.—The balessan, balm, or balsam of Mecca, (*Balsamodendron Opobalsamum,*) belonging to the family *Burseareæ*, is a native of the eastern coast of Abyssinia, especially at Azab, and as far as the strait of Babel Mandeb. Bruce says, it is a small tree about fourteen feet high, with scraggy branches and flattened top, like those which are exposed to the seaside blasts; the appearance is consequently stunted, and the leaves are beside small and few. He supposes that it was transplanted to Arabia, and there cultivated at a very early period. This was the *Balsamum Judaicum*, or Balm of Gilead of antiquity and of the sacred writings, it being supposed at one time to be produced only in Judea. It seems, however, to have disappeared from that country, and the supply to have proceeded from Arabia. Many fables are connected with it. Tacitus says, that the tree was so averse from iron that it trembled when a knife was laid near it, and it was thought the incision should be made with an instrument of ivory, glass, or stone. Bruce was told by Sidi Ali Tarabolussi that "the plant was no part of the creation of God in the six days, but that in the last of three very bloody battles which Mahomet fought with the noble Arabs of Harb, and his kinsmen the Beni Koreish, then pagans, at Beder Hunein, Mahomet prayed to God, and a grove of balsam-trees grew up from the blood of the slain upon the field of battle; and that with the balsam which flowed from them he touched the wounds of those even that were dead, and all those predestined to be good Mussulmans afterwards immediately came to life." To return to the balsam-tree: the mode of obtaining it remains to be described. This, according to Bruce, is done by making incisions in the trunk at a particular season of the year, and receiving the fluid that issues from the wounds into small earthen bottles, the produce of every day being collected and poured into a larger bottle, which is kept closely corked. The smell at first is violent, and strongly pungent, giving a sensation to the brain like to that of volatile salts when rashly drawn up by an incautious person. The natives of the East use it medicinally in complaints of the stomach and bowels, as well as a preservative against the plague; but its chief value in the eyes of oriential ladies lies in its virtues as a cosmetic,—although, as in the case of most other cosmetics, its effects are purely imaginary. [Edinburgh Cabinet Library, No. XII.—Nubia and Abyssinia.]

Largest Tree in the World.—The boabab or monkey-bread (*Adansonia digitata*) is the most gigantic tree hitherto discovered. The trunk, though frequently eighty feet in circumference, rarely exceeds twelve or fifteen feet in height; but on the summit of this huge pillar is placed a majestic head of innumerable branches fifty or sixty feet long, each resembling an enormous tree, densely clothed with beautiful green leaves. While the central branches are erect, the lowest series extend in a horizontal direction, often touching the ground at their extremity; so that the whole forms a splendid arch of foliage, more like the fragment of a forest than a single tree. The grateful shade of this superb canopy is a favorite retreat of birds and monkeys; the natives resort to it for repose, and the weary traveller in a burning climate gladly flies to it for shelter. The leaves are quinate, smooth, resembling in general form those of the horse-chesnut. The flowers are white and very beautiful, eighteen inches in circumference. The fruit, which hangs in a pendant manner, is a woody ground-like capsule, with a downy surface, about nine inches in length and four in thickness, containing numerous cells, in which brown kidney-shaped seed are embedded in a pulpy acid substance. The timber is soft and spongy, and we are not aware that it is used for any economical purpose. It is very easily perforated, so that, according to Bruce, the bees in Abyssinia construct their nests within it, and the honey thus obtained, being supposed to have acquired a superior flavor, is esteemed

in preference to any other. A more remarkable excavation is however made by the natives; diseased portions of the trunk are hollowed out and converted into tombs for the reception of the bodies of such individuals as, by the laws or customs of the country, are denied the usual rites of interment. The bodies thus suspended within the cavity, and without any preparation or embalmment, dry into well preserved mummies. The juicy acid pulp is eaten by the natives, and is considered beneficial in fevers and other diseases on account of its cooling properties. The duration of the boabab is not the least extraordinary part of its history, and has given rise to much speculation. In it we unquestionably see the most ancient living specimens of vegetation. 'It is,' says the illustrious Humboldt, 'the oldest organic monument of our planet;' and Adanson calculates that trees now alive have weathered the storms of five thousand years.—[Edinburgh Cabinet Library. No. XII.—Nubia and Abyssinia.]

[*From the Hampden Journal, Springfield, Mass.*]

"Valuable Turtle."—In the year 1816, Mr. Jonathan Worthington, of West Springfield, found a Turtle upon his premises which had "J. W. 1717" marked—evidently cut with a penknife—upon the under shell. The Turtle was set at liberty, after examination, and again found in 1823; again in 1828; again in 1829; and a few days since in 1833. The father, grandfather, and great grandfather, had the same given name, with the present *Jonathan* Worthington, who thinks that the great grandfather marked the turtle. The turtle is of the species commonly called the "Box Turtle," having the upper shell very crowning, and the lower shell, flat with a joint in the centre. The "venerable" gentleman, if the date is correct, must of course be upwards of 116 years old, and is said to be as active as any of the young fry of the same species which is generally to be met with.

"What's all the best on't," the farm upon which the present Mr. Worthington lives, has been in the possession of the four several *Jonathans*, and the "venerable" has always been found within a few rods of the same spot; which indicates that, whatever may have been his observations for the last century, his travels have not been very extensive.—The circumstance is somewhat singular, and is our motive for noticing it.

To those who are not aware of the longevity of the turtle it may be well to give an extract from "White's Natural History of Selborne," in which are some interesting facts in relation to the Tortoise Among others, to show its strength, it is stated that a common sized turtle would move with ease with a weight of 18 stone on its back, and that a cart wheel passing over the turtle gives it no apparent pain. In relation to the longevity of this "creeping thing" the following extract is from the work abovementioned:

"From a document belonging to the archives of the Cathedral, called the *Bishop's Barn*, it is well ascertained that the tortoise at Peterborough must have been about 220 years old. Bishop Marsh's predecessors in the see of Peterborough had remembered it above sixty years, and could recognize no visible change. He was the seventh bishop who had worn the mitre during its sojourn there. If I mistake not, its sustenance and abode were provided for in this document. Its shell was perforated, in order to attach it to a tree, &c. to limit its ravages among the strawberry borders."

Snow Shoes.—"They are about three feet long, and a foot wide in the broadest part. Little sticks placed across at 5 or 6 inches from each end, serve to stregthen them. A net-work of twisted deer-skin, cut into strips, is fastened to the frame, and to this the foot is confined by means of strings of the same material. The snow-shoe used for travelling over a hilly country is turned up at the end, and pointed. To walk well upon these long and broad bottoms requires as much practice as it does to navigate a canoe. The knees must be turned a little inward, and the legs kept wide asunder, and the strain of the strings is such that a white man never puts them on to wear for a day without suffering what is called the 'snow-shoe evil.' An Indian will travel with them forty miles a day and sometimes more."

The Dog-train.—It is a light frame of wood, covered round with a dressed skin. The part in which the feet go are lined with furs, and is covered in like the forepart of a shoe. The bottom is of plank, about half an inch thick, and some inches longer than the train, and an inch or two wider. In this carriage a woman may sit quite comfortably, and can take a child in her arms, while her driver standing on the part of the frame which runs out behind, gives the word to his dogs. These, when well trained, will trot off 40 miles a day over the snow crust. —[Thatcher's Indian Traits.]

POETRY.

AN OBJURGATORY EPISTLE.

"*Non tecum possum vivere, nec sine te.*"

Madam—I mean, dear Laura—no, I don't;
I mean—what matters it? you know my meaning;
I have your letter, and it is my wont
To show to courtesy a proper leaning;
Therefore I write; think not I own your power,
Nor call thy sex's practised arts about thee,
Because I said in love's unguarded hour,
"There is no living with thee or without thee."

You promised never to offend me more—
Ah! thou deceitful one!—and vow repentance;
You say you always thought Delmaine a bore,
And beg me to recall my cruel sentence.
An oath! an oath! I have an oath in heaven,
Were all that's faithful, treacherous girl, about thee,
These words should never from my breast be riven,
There is no living with thee or without thee."

What! shall I sit with half-averted face,
While every pulse with rage and shame is beating,
To see that puppy basking in your grace,
While your cold glance meets my eye's silent greeting.
Must I endure to see each emptiest head
A walking piece of furniture about thee?
Good Good! to think I ever should have said,
"There is no living with thee, or without thee."

No—by those golden hours so swiftly past,
By those bright smiles you gave me when you won me—
By all the hopes I set upon the cast,
By the fond, foolish heart that has undone me,
By all those bitter banquets tears have brought,
By all that once was dear and loved about thee,
I swear to banish from my heart the thought,
"Tnere is no living with thee, or without thee."

O Laura, if you ever drew a sigh,
How could you thus affection's bond dissever?
How could you every woman's engine ply
To rack a heart would have been yours for ever?
Then that abhorred Delmaine! to see the jay
Strutting in all his finery about thee,
And (grant me patience!) hear you laughing say,
"There is no living with thee, or without thee!"

In vain you strive to bring me to your lure,
In vain pour forth a thousand false professions,
In vain protest your love shall still endure,
And blot with artful tears your feigned confessions.
No more shall woman's tears or smiles ensnare
A breast whose wishes ever dwelt about thee;
Though, vexed by your caprice, I used to swear,
"There was no living with thee, or without thee."

E'en as the closing steel now parts in twain
The silken band from which so long depended
The mimic partner of thy wayward reign,
Torn are our ties, my dream of love is ended.
Take it; I cannot wear that portrait now,
'Twill grace, no doubt, some dangling fop about thee;
Let other lips in pettish fondness vow,
"There is no living with thee, or without thee."

Ah! fair, but false one! 'tis thyself indeed;
Too true an image of thy syren beauty;
There breathes the form I deemed the highest meed,
Could smooth the toilsome path of rugged duty.
Thine's the arch smile that lurks in every feature;
That air of witching coquetry about thee:
Come to my heart, thou dear, tormenting creature,
"There is no living with thee, or without thee."

[For the New York American.]

"*I'll hold thee any wager*
"*When we are both accoutred like young men,*
"*I'll prove the prettier fellow of the two.*"

Ah! Pelham, hast thou found thy way
From London to New York,
In Broadway can'st thou deign to stray,
Or on the Battery walk?

How you must miss your satin shoes,
Your broidered wrapping-gown,
Your tepid baths, your billet doux,
In that half savage town.

I pity you, upon my soul,
I know not what you'll do;
Are you an amateur in coal,
In pictures old or new?

Can you turn Broker, learn to shave,
Sell Hock, Sauterne, Chateau,
Or speculate in Stocks, or rave
Of Gold Mines—Railroads?—No.

What brought you here? You'll surely starve
In this commercial town;
Can you a haunch of Venison carve,
Or swallow Turtle down?

A Politician—are you still
An honest Democrat?
A Federalist, then?—What e'er you will,—
Something you must be at.

To give America her due,
I've always had a notion,
(Perhaps my theory's not new,)
She is perpetual motion.

On goes the tide, down hill and up,
Around in each direction;
One night with wealthy men will sup,
Next—witness their defection.

The rich, the poor, the great, the small,
All have some point to carry;
Some work, some beg, some thrive, some fall,
But all end thus—they marry.

Then, Pelham, if you scorn a trade,
Some wealthy damsel fetter,
And if Papa his will has made
And gone—so much the better.

Delta.

NOVELTY WORKS,
Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May*, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co; Albany: or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York,
January 29, 1833. F31 tf

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.
Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6t

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.
Baltimore, May 1st, 1832.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Rail road Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25

MARRIAGES.

On Thursday last, in St. John's Church, by the Rev. John F. Schroeder, ROBERT H. CUMING, to LOUISA WARING FISHER, eldest daughter of the late John P. Fisher.

On the 22d inst. by the Rev. Dr. McMurray, Mr. Josiah Higgins, (of the State of Maine,) to Miss Jane Gibson, of Scotland.

On Wednesday evening last, by the Right Rev. Bishop Onderdonk, B. F. Meakings, of Mobile, to Elizabeth C., only daughter of Peter Taylor, Esq. of this city.

On Wednesday evening, by the Rev. Dr. Cone, Mr. John P. Scipio Hassler, to Miss Clarissa Conrad, daughter of Ephraim Conrad, Esq.

On Thursday evening, by the Rev. A. Maclay, Mr. Wm. Cobb. to Miss Helen Dunn.

On 25th instant, by the Rev. Mr. Lyme, John T. Fleming, Esq., of Goochland, (Va.) to Miss Indiana, daughter of the late William Bowdell, Esq., of Petersburg.

On Friday evening, Mr. William Bell, to Miss Jane Davies.

At Newburg, July 25th, Samuel L. Gilpin, of New-York, to Elizabeth, daughter of Thomas Morton, of Newburg.

In Northampton, Mass. Mr. Benjamin Pierce, Professor at Harvard University, to Miss Sarah H. Mills, daughter of the late Hon. E. H. Mills.

On the 20th ult. at New Orleans, Dr. George F. Black, to Miss Mary Y. Oliver, daughter of Douglass Oliver, Esq. of Anderson county, Tenn.

On Thursday, the 25th inst. at Brooklyn, by the Rev. D. Carroll, Adrian Lott, to Miss Sarah Butler, adopted daughter of Silas Butler, Esq. U. S. Navy.

At Newburgh, on Tuesday, July 25th, by the Rev. Mr. Brown, Samuel G. Gilpin, of New York, to Elizabeth, daughter of Thos. Morton, of the former place.

On the 9th inst. at Morristown, N. J., by the Rev. Mr. Huber, the Rev. Dr. F. A. Rauch, Professor in the Theological Seminary of the German Reformed Church, York, Pa., to Miss Phœbe B., daughter of L. Moore, Esq. of the former place.

In Lenox, Mad. Co., on the 10th inst., by the Rev. Geo. Foote, Maj. B. Franklin Bruce, to Miss Eliza A., daughter of Dr. Nathaniel Hall, all of that place.

In Canajoharie, Mont. Co., on the 10th inst., by the Rev. F. W. Lake, Mr. Jarvis N. Lake, Counsellor at Law, of Little Falls, Herkimer county, to Miss Jane A., daughter of Dr. Simeon Marcy, of the former place.

On the 20th ult. at St. John's Church, Stamford, Conn., by the Rev. Mr. Todd, THOS. M. HARVEY, to ELLINOR JOANNA, daughter of Henry Reed, of this city.

DEATHS.

Yesterday afternoon, Ann Maria, youngest daughter of Capt. Saml. J. Waring, aged ten years.

On Tuesday, 23d inst. in the 8th year of her age, Elizabeth Columbia, daughter of Aaron C. and Mary Burr.

Last evening of a lingering illness, in the 27th year of her age, Elizabeth, wife of Joseph Washourn, and daughter of Samuel Fickett.

This morning, Mrs. HELLEN CRIGHTON, consort of the late John Crighton, in the 82d year of her age.

This morning, WILLIAM HENRY, youngest son of Charles I. Howell.

Suddenly, on Thursday evening, GRACE WALTON, eldest daughter of the late Edward Lyde.

This morning, PETER ROOSEVELT, Esq. in the 71st year of his age.

Thursday morning, 25th July, WILLIAM HARTSHORNE, in the 85th year of his age.

Wednesday evening, 24th July, CHARLES, the infant son of Charles Keeler.

On Monday, 22d inst. BENJAMIN FRANKLIN, infant son of E. B. & M. Clayton, aged five months.

This morning, (Wednesday,) ANN SEABURY, wife of David Seabury, in the 81st year of her age.

On Saturday evening, John W. Low, in his 25th year, eldest son of H. P. Low, of Baltimore.

On Saturday, Wm. Henry, son of Charles J. Howell.

On Friday, George Edwards, a colored man, aged 40.

At Saybrook, Ct. on 24th inst. at the house of her son-in-law the Rev. J. M. Guion, in her 71st year, Elizabeth, wife of John R. Wheaton, of this city.

In Pittstown, Rensselaer county, on Sunday, the 1st inst. John C. Dyre, in the 34th year of his age.

At Philadelphia, Dr. John Lange, aged 68; Adam Brance, 77; Clara Deborah Silver, 89; Edward Burd, 83; James Hunter, 42.

At St. Louis, Missouri, July 14th, in the 25th year of his age, Charles T. Parker, a native of Boston, and a member of the Missouri Bar.

In Stafford County, (Va.) on the 19th instant, Mrs. Agatha Eliza Cooke, wife of Gen. George M. Cooke, and daughter of the late Hancock Eustace, Esq.

At Cary's Brook, in the County of Fluvana, (Va.) on the 16th instant, Mrs. Catharine Harrison, consort of Archibald M. Harrison, Esq., and daughter of the late Major Henry Heth, of Blackheath, in the county of Chesterfield.

On the 9th inst. at Pittsburgh, (Pa) after a few weeks illness, Mrs. Mary Elizabeth Shoenberger, wife of Mr George Shoenberger, daughter of Wm. L. Vanzandt, of New-York, in the 19th year of her age.

At her late residence on the East River, on Monday afternoon, Mrs. Lydia Beekman, wife of James Beekman, Esq. aged 68 years.

On board the schooner Premier, on the passage from Tampico, the 10th inst., Sandford M. Worth, of Long Island, in the 16th year of his age.

At New-Orleans, July 11th, after a short illness, Major Saml. Spotts, Surveyor of the Port of New-Orleans.

In Baltimore, on the 6th inst., FRANCOIS AUGUSTIN DU BOIS MARTIN, aged 91. The deceased was a native of Barbesieux, in France, and was educated for the army, where he served until the early part of our revolutionary struggle with Great Britain, when inspired by the enthusiastic love of liberty then awakening in his native country, and informed of the difficulties the Marquis de Lafayette had to encounter in obtaining a conveyance to the American Colonies, he readily volunteered his services in their cause, and by procuring and fitting out the vessel which bore the youthful patriot to the shores of America, hastened an event so interesting in the history of our revolution. On his return to France he resumed his rank in the French army, and subsequently served in the regiment of Port au-Prince, until the dispersion of the French troops in the Island of St. Domingo, when his devotion to liberal principles led him to seek an asylum in this country. Here, by his urbanity and the uprightness of his character, he secured the esteem and confidence of all who knew him, and by his kind and gentle disposition acquired the lasting affection of all who stood in the more intimate relation of kindred and friends.—[Nat. Intel.]

Suddenly, at Mobile, on the 20th June, HENRY A. ELLIS, a native of this city, and son of John F. Ellis, Esq. aged 32 years. His death was occasioned by a fall from his horse

At Jamestown, on the 20th June, the Rev. Isaac Eddy, aged 50 years.

In Hartford, Hezekiah Skinner, of the house of Webster & Skinners, of Albany.

At Natchez, Charles Wooster, late publisher of the Mississippi Journal: Richard Dowell, of Philadelphia.

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads

No. 264 Elizabeth street, near Bleecker street,

New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation.

J 25 tf

RAILWAY IRON.

☞ Ninety-five tons of 1 inch by ¼ inch, } *Flat Bars* in
200 do. 1½ do. ¼ do. } lengths of 14 to 15
40 do. 1¼ do. ¼ do. } feet counter sunk
800 do. 2 do. ¼ do. } holes; ends cut at
800 do. 2½ do. ¼ do. } an angle of 45 degrees with splicing plates, nails to suit.
soon expected.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.

9 South Front street, Philadelphia.

Models and samples of all the different kinds of Raile, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. j8 4meowr

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails: from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation are now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 223 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes,

J23 1am H. BURDEN.

NORTH WESTERN RAILROAD

NOTICE.—Books for subscriptions to the additional Stock of "The Elizabeth-Town and Somerville Railroad Company," will be opened at William Craig's Inn, in Belvidere, on Monday the 29th day of July instant; at Israel Smith's, in Clinton, on the 30th; at Drake's Hotel, in Newark, on the 31st; and at the Exchange, in the city of New York, on the 1st, 2d, and 3d days of August next, between 11 A. M. and 3 o'clock P. M.—Additional stock required $500,000, in shares of $50 each—$5 on each share to be paid at the time of subscribing.—Dated July 12, 1833.

GARRET D. WALL,
THOMAS SALTER,
OLIVER W. OGDEN,
NATHANIEL SAXTON
JOHN W. BRAY,
JOHN KINNEY, Jun.

Books will also be opened at the same times and places, for subscriptions to the stock of "The Susquehanna and Delaware Railroad Company." Capital required $1,000,000. Shares $50 each—$5 on each share to be paid at the time of subscribing.—Dated July 10, 1833.

HENRY W. DRINKER,
DANIEL STROUD,
WILLIAM HENRY,
JOHN COOLBAUGH,
A. E. BROWN,
STOCDEL STOKES,
DAVID SCOTT,
JAMES M. PORTER.

Books will likewise be opened at the same times and places, for subscriptions to the stock of "The Leggets-Gap Railroad Company." Capital required $500,000. Shares $50 each—$5 to be paid at the time of subscribing.—Dated July 10, 1833.

HENRY W. DRINKER & others, Commis'rs.

The above roads, the stock of which is now offered to the public in connexion with the New Jersey Railroad, form one continuous line of railroad communication from Jersey City, opposite New York, through the Lackawana Coal Region, to the Northeast branch of the Susquehanna, below the great bend, and the North Branch of the Susquehanna at Pittstown, at the mouth of the Lackawana creek, and head of the Pennsylvania Canal navigation.

☞ Letters addressed to the Commissioners, containing the money or checks, will be received as subscriptions. The Stock will be distributed, &c. immediately before the Commissioners leave the City of New York. j31

NEW YORK AND ERIE RAILROAD COMPANY.

ONE Million of Dollars of the Capital Stock of this Company having been subscribed, in conformity with the charter, the stockholders are hereby notified, that an election for the choice of seventeen Directors of the said Company, will be held at the Merchants' Exchange, on Friday, the 9th day of August next, under the inspection of the Commissioners, as directed in the charter. The Poll will open from 10 to 12 o'clock, A. M.

By order of the Commissioners.

New York, 19th July, 1833. j31 4t

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

J8 ROGERS, KETCHUM & GROSVENOR.

☞ **GRACIE, PRIME & CO.** offer for sale, at 23 Broad street—

2 cases Gum Arabic
20 do. Danish Smalts, EFFF
10 do. Saxon do. do } Reduced Duty
100 bags Saltpetre
2 do Gall Nuts; 20 tons Old Lead
100 do. Trieste Rage, FF
6 boxes each 50 lbs. Tartaric Acid
6 do. each 25 lbs. do. do.
1 case 50 bottles Syrup de Vinaigre
10 cases White Hermitage; 20 do. Cote Rotie
10 do. Dry St. Peray; 50 do. Bordeaux Grave
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil
8 bales Fine Velvet Bottle Corks
100 do. Bourbon Cloves
30 do. Molieres Almonds
143 bundles Liquorice Root
4 bales Goat Skins
1 cask Red Copper, 1 do. Yellow do.

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints
40 do. 3-4 and 6-4 colored and black Merinos
15 do. 5-8 colored and black Circassians
2 do. Silk Bandannas, black and colored
4 do. Italian Lustrings
3 do White Satteens
4 do. White Quiltings
10 do. Borrie's Patent Thread, No. 22 and 25
10 do Super high col'd Madras Hdkfs, ent. to debenture
100 pieces Fine English Sheetings, for city trade
3 cases Cantoon Cords
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors
26 bales low priced point Blankets.

PAPER—

IMPERIAL AND ROYAL—From the celebrated Saugerties Mills, of the following sizes, all put up with 480 perfect sheets to each ream—

Sizes—24x35, 24½x36, 24x34½, 26x36, 26x37, 29x41, 27x38½, 24x33, 24x29, 24x28, 21x26, 21x27, 20x24, &c., &c.

Also—All the old stock of Medium will be sold at very reduced prices, to close sales, the Mill having discontinued making that description of paper.

ALSO,

Chinese Colored Paper—for Labels, Perfumery, &c.

5 cases each 1600 Sheets Colored Paper
2 do do do do do superfine
2 do do do fig. do do
3 do do do plain Gold do
2 do do do plain Silver do
2 do do do Silver do with red figures
2 do do do Gold do do
2 do do do Red do Gold do
2 do do do White do Silver do. A20

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,

Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This Instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,

JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad'a, Germant. and Norrist. Railroad

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